

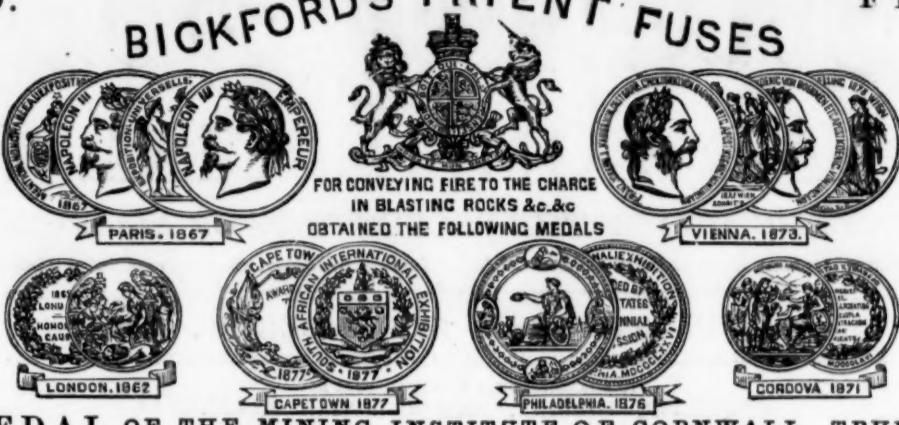
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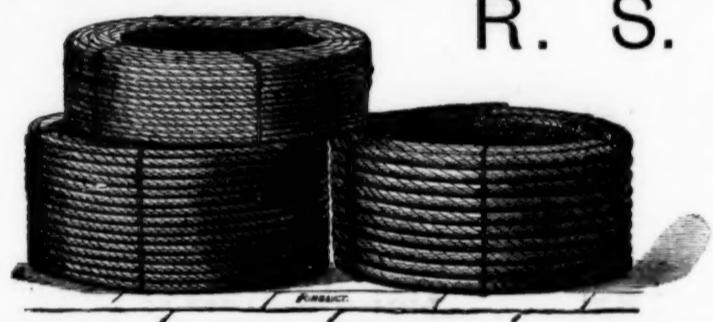
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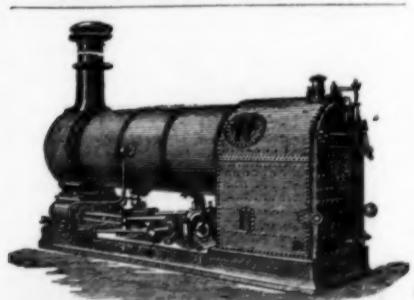
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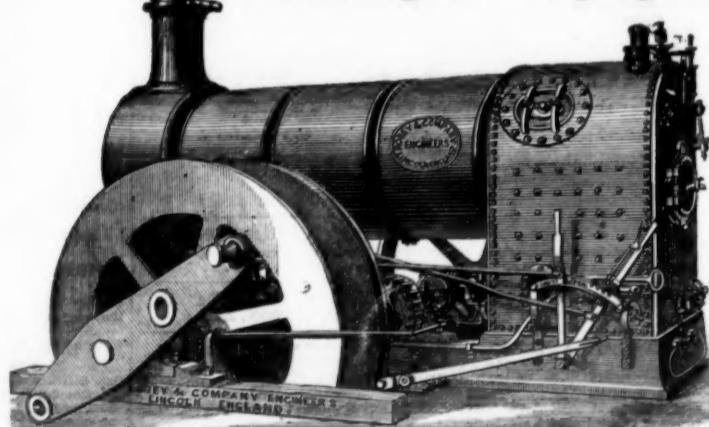


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R. HUDSON'S

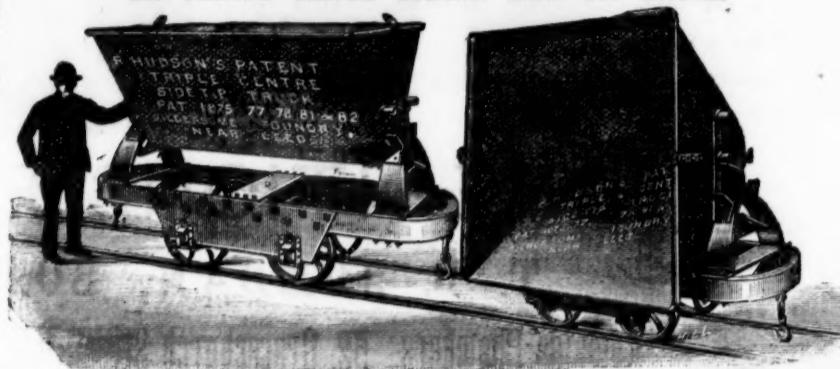
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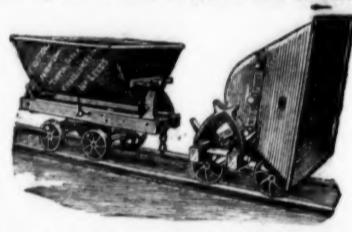


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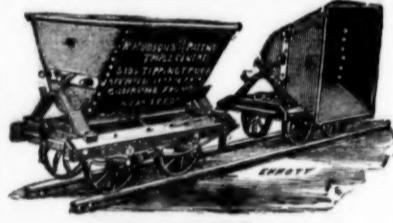
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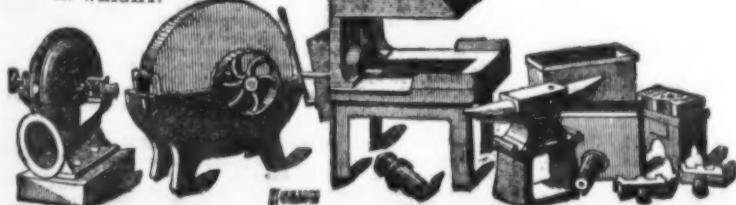


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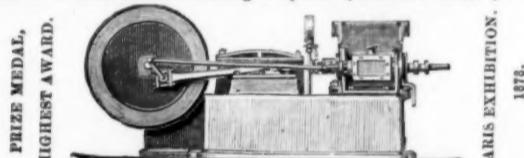
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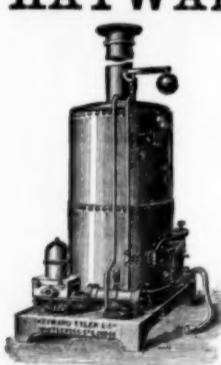
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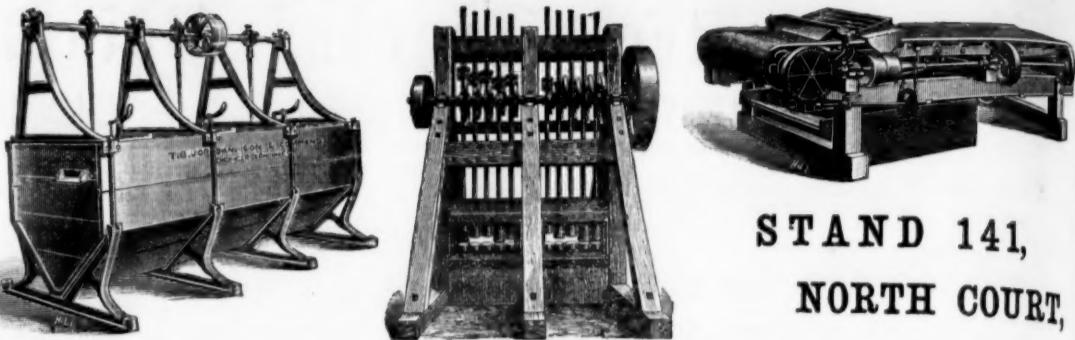
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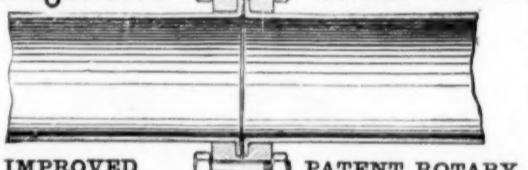
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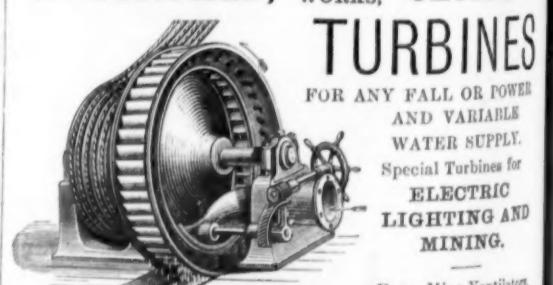
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SEPTEMBER 19, 1885.

THE MINING JOURNAL.

1053

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EAST BLUE HILLS.

SIR.—It must be a source of much satisfaction to all interested in mining (especially in Cornish mining) to know that amidst the present great depression in mining enterprise there are here and there exceptions to that state of things. In face of the numerous failures which have occurred in connection with the various gold schemes, which, couched in plausible language, and launched with a flourish of trumpets, have deceived the capitalist, it is only natural that investors should now be very cautious before they part with their money, and incur liability for the future.

We all know that there is a certain amount of doubt about most mining operations; but it is a matter of history that every now and again the efficient working of mines results in the development of almost untold mineral wealth. It is fortunate that compensation in one direction should occasionally be obtained for loss in another, and that after the exercise of ordinary care in selecting properties in which to embark capital investors should sometimes find themselves associated with most valuable concerns.

From the weekly reports and other statements which have of late appeared in your Journal—one containing a most satisfactory account based on a personal visit to the mine—it would seem that East Blue Hills is placed beyond the problematical category. This view is supported by numerous special reports, and particularly by one from Capt. J. Thomas, of Dolcoath. The proper development of mining is its reduplication, either by successive investments of profits, or (as it appears will likely be the case with East Blue Hills) by a bound, brought about by the easy abstraction of surprising quantities of hidden, but scarcely concealed, wealth; and from the accounts received from reliable quarters there would appear to be no safer channel at the present moment for liberal investment than in this remarkable property. The marvel is that the shares—although now quoted at five or six times their starting figure—should not largely increase in value, in view of the extraordinary statements which appear from week to week in your Journal. I assume, however, that, like all stocks in which there are daily dealings on the London markets the "bears" and "bulls" regulate the price. At any rate, I attribute the comparatively slow upward tendency to that cause more than to any other; but I should not be surprised in the least degree to find any day a material advance in the value of the shares, and then regrets of not buying earlier will avail nothing. Indeed, I have just had a conversation with one of the managers of East Blue Hills respecting the value of the shares, and his significant reply was "If you wait until the 64 heads of stamps are up you will have them at 10*l.* or 15*l.*" The present time, therefore, seems the opportune period for securing shares. Messrs. Watson Brothers must be congratulated upon the success of this adventure—one of the very few valuable properties which Cornish capitalists allow to slip through their fingers.

GEORGE BALDOCK.

Park-lane, Tottenham, September 11.

THE VENEZUELA GOLD FIELDS.

SIR.—Having just returned from these gold fields perhaps a little information concerning them may be interesting to your readers. They are situate on the south bank of the Oronoco river, about 250 miles up from the English island of Trinidad, and 130 miles inland from the landing place. As the crow flies they are about 300 miles from Trinidad, and about 150 miles from Demerara; yet the bad policy of their Government compels you to travel nearly 600 miles from Trinidad to reach the fields. The first and nearest port on the river to the gold fields is Las Tablas; the steamer stops here four hours to land the mail and take in passengers, but the passengers going to the gold fields are not allowed to land here. No, not yet; that would never do. The Government and their confederates (the shopkeepers) must first pick you and fleece you all they can, by compelling you to come 100 miles higher up the river, to the old Spanish town of Angostura, Bolar. After they have done with you, you must purchase another passport, and pay another passage down the river to Las Tablas. From this place to the fields the road is good, and very level nearly the whole distance (130 miles), yet you are charged from 50*l.* to 60*l.* per ton freight. I came down the whole distance, in a two-mule cart, in 28 hours. There are about 7000 people on this field; 6000 of them are the native race of the West Indies, and about 1000 Corsicans and Germans. The whole of the mining work on this field is done by coloured people. The miners get 4 pesos per day of six and eight hours, which is 13*s.* 4*d.* of English money. Nearly every house is a grot shanty. There are some hundreds of general storekeepers here. Not one of them has 1*d.* invested in any mine on this field, and there is not one English merchant or shopkeeper in the country, yet for every 100*l.* invested in opening up the mines here 950*l.* of it is English money. What a contrast to Australia, where the merchants and shopkeepers are the principal investors in mining stock. There seems to be a confederacy between the merchants and shopkeepers on this field to make John Bull pay dearly for everything he requires, but with a little assistance from the Government every article could be landed and sold on the gold field for half the price it now costs. The merchants here trust large amounts of goods to the miners, and this practice prompts them to demand very high wages from the English companies. They do not think that unless the English capitalist gets a little profit from their mines they must shut them down.

I will now speak of the prospects of this field. I stayed on the field three months, and every day rambled in different directions over the hills. I saw scores of quartz reefs that have never been prospected, but I feel sure will all be worked in after years if the Government will only take a little advice how to make their very rich country prosperous. There are many alluvial patches on this field formerly worked, but now left till by-and-bye owing to the high wages given by the companies. There are several companies crushing ore, the El Callao 100 stamps, the Peru, the Chili, the Panama, the Caratog and others will soon be ready. Hearing several of the miners speaking of the prospects of the Victoria Mine, I visited it (three hours' ride from the celebrated El Callao.) There were three minors (negroes) living on the mine, waiting for it to open again, in the meantime supporting themselves by growing a few vegetables and shooting wild pigs, turkeys, pheasants, deer, &c. They offered to show me round the property, but being an old gold miner myself I did not require a guide. I travelled over nearly all this property, and saw many thousands of tons of surface quartz. It seemed to me that there are several reefs on this claim, but there has been very little work done at this mine: yet they say here it has cost the company many thousands to do it. I examined one reef nearest to where they are going to erect the mill. They first struck the reef about 400 ft. above the mill site, but they only scratched it. Here it is about 4 ft. thick. About 100 ft. lower down the hill they sank on it 12 ft.; here it is 4 ft. thick, and about 300 ft. lower down

the mountain and nearer the mill they have sunk on it 35 ft. It is here 4 ft. wide and seems to continue the whole length of the mountain spur. This reef I think is well worthy of a trial, to see if there is payable gold in it. Then by sinking several shafts on the lode and cutting these shafts at foot of the mountain by a tunnel 300 or 400 ft. in length the quartz would be drawn out of the mine and delivered into the mill overhead. There would be many years' workings in the back stopes from this tunnel up to the cap of the reef.

Here is a list of the prices of food on this gold field:—Tea, 8*s.* per pound; sugar, 2*s.*; butter, 4*s.*; cheese, 3*s.*; ham, 3*s.*; beef, 8*s.*; and bread, 1*s.* 3*d.* per pound; flour, 65 lbs. barrel, 4*l.*; salt pork, 65 lbs., 4*l.*; Bass's ale per bottle, 4*s.*, and brandy, 10*s.*; Indian corn, 1*s.* per quart. Clothes 300 per cent. dearer than in England.

After all I have seen of this field I think it will yet prove itself to be one of the richest and most extensive gold fields in the world. There seems to be no end to the reefs in these mountains; but the Government must try to be a little more liberal to the capitalists who are willing to risk their capital to develop the gold mines of Venezuela. At the El Callao Mine there is a strong detective force travelling round the mine night and day underground and at surface, each one having a revolver slung round his neck.

One of the great drawbacks to mining work is the exorbitant price of negro labour, the native Venezuelans—i.e., of bastard Spanish and Indian origin—having long since determined to do no work. Negroes who in the West Indies are glad to work 14 hours a day at 1*s.* per day on the gold fields here demand and get 1*s.* per day of six and eight hours. The cost of keeping these negro miners is (without intoxicating liquors, which accounts for all) 1 peso—i.e., 3*s.* 4*d.* per day. In the reading-room at the El Callao Mine it was interesting to see the *Mining Journal*, which, it is not necessary to remark, is read every week by everybody.

I shall be happy to communicate with any shareholder interested in this company if they address me to the care of the *Mining Journal*, as I see that enquires have recently been made about it.

London, September 16.

AN OLD BALLARAT MINER.

THE EBERHARDT PROSPECTS

SIR.—I wish to call the attention of my brother shareholders to the very favourable opportunity now being offered us to make this a dividend-paying company, and at the same time to secure a good interest on our investment, and also at the same time to provide funds out of the profits from the Monitor to develop the Eberhardt property. We shall thus enhance the marketable value of our holdings beyond the amount we are asked to subscribe. I feel sure that many of the shareholders do not realise the very favourable terms offered. Suppose I take 100*l.* in debentures; this is how it works out interest on 100*l.* debentures from October 1st, 1885, to January 1st, 1887, at 10 per cent. is 12*l.* 10*s.* Then convert this into 200*l.* 10 per cent. preference shares. The dividend for 1886 will be due about March, 1887, when the holder will be entitled to 10 per cent. on the 200*l.* preference shares—20*l.*, so that in a year and a half your original 100*l.* debenture will represent 32*l.* 10*s.* in cash, and 200 preference shares at par. Surely this ought to be good enough; but in addition there will be, according to the present earnings of the Monitor, a balance of some 8000*l.* to be applied to the Eberhardt, which is equal to about 4 per cent. on the shares we now hold. It is probable they would advance upon this considerably more than the 5*s.* per share we are asked to pay by taking these debentures, and thus enabling our directors to purchase the Monitor property. By this means I think we shall thoroughly resuscitate the Eberhardt Company, whose shares will then be a satisfactory investment. Should we allow this opportunity to pass us we shall have to subscribe the same amount for the further working of the Eberhardt loan, or else forfeit our shares in the winding-up reconstruction that must follow if the present scheme fails. I think, therefore, that every Eberhardt shareholder should subscribe for these debentures to the extent of 5*s.* on each share held. Every shareholder who does not do so is not only standing in his own light, but thereby assists to prejudice the interests of his brother shareholders.

AN ORIGINAL HOLDER.

TIN MINING IN THE ST. AGNES DISTRICT.

SIR.—The improved prospects in this district must be highly gratifying to everyone connected with it. Only a few years since it had quite the opposite appearance, everything looking extremely gloomy. West Kitty shares were then scarcely marketable, but in a very short time rose to 12*l.*, 14*l.* per share, and has paid good dividends ever since. This discovery, as a matter of course, gave a great impetus to prospective mining in the district, which has been attended with very gratifying results at East Blue Hills and Trevaunance Mines. In the former a course of tin has been driven through in the adit level over 65 fms. in length, and the engine-shaft sunk on the course of the lode 23 fms. in a gradually improving lode, which is now worth in the bottom for the length of the shaft and full width of the lode fully 100*l.* per fathom. The 20 fm. level has been driven through this course of tin 27 fathoms, and it continues to extend both east and west very satisfactorily indeed, and will no doubt be found equally as long here, and probably much longer, than in the adit. A contract has been let to sink the shaft as quickly as possible to the 30 fm. level, and if the lode continues improving in depth, it will be equally as good as its neighbour, West Kitty, at that depth. This mine has already attracted a great deal of attention, and has been inspected by several practical mine agents, whose reports are very favourable, and lately by Capt. Josiah Thomas, manager of the celebrated Dolcoath Mine, who has recommended the erection of a powerful stamping engine, the present one being quite inadequate to the requirements of the mine. This will be got to work in about two months, and the shaft will be got down to the 30 fm. level in about the same time. The mine will then be in a position to increase the returns and make good dividends.

The cost of the mine is met at present by the returns of tin from 12 heads of stamps, which are more than supplied by the driving of ends and sinking the shaft, there being a large accumulation at surface, so that the ground hitherto laid open for stoping remains in reserve, and will continue to accumulate of necessity until the new stamps are got to work. These reserves are already very extensive. In the adit for a great length there are 70 fms. of backs, and as the ancients worked away the lode right up to the surface up to this point, we may naturally infer that the tin in the adit extends to surface, which in and about the engine-shaft is one continuous course of tin from surface to the bottom of the mine, the top of which was worked away hundreds of years ago. In the bottom there is also an extensive and good piece of ground laid open, and is daily being added to.

A fact in connection with these happy events is well worth the consideration of the candidates of the Mining Division of Cornwall. The great difficulty of financing West Kitty for some time before it cut rich is now a household saying in Cornwall. The mine had

to be carried on on very long credit, and if Mr. Conybeare's proposed system of depositing the money in advance had been in force, these riches would probably never have been unearthed, and many hundreds now employed in the district would have had to seek employment in other overstocked markets. What is wanted is compensation for improvements, and every facility given to the working men to search for lodes, not impediments brought about by blind legislature. Any man may strike ore at any moment; compensate him, and remove all impediments in his way, and give the poor a chance as well as the rich to live. Our laws have all been made by the rich, who seem to have been so much occupied in protecting themselves that the poor have been very sadly overlooked.

WILLIAM NANCE.

SHROPSHIRE LEAD MINES.

SIR.—The Snailbeach Mining and Smelting Company have resumed underground operations on a small scale, having put from 30 to 40 miners to work lately on the tributary system. This is a beginning which we sincerely hope will soon be succeeded by bigger and better things. They used to employ at the mines and smelting works between 300 and 400 hands, and have paid large dividends. The Mytton's Beach and the Perkin's Beach sets are being held in tow, I believe, till better times. Oven Pipe, Potter's Pit, Pennerley, and the Bog Mines, are all in the amalgamated scheme of the Tanckerville Great Consols Mining Company, and a fine run of mines they are, and we hear that the back wages are likely to be paid soon, and the mines be put to work again. Should not something considerable take place in this line, it is likely to be a very trying winter with a good many families. It is a very good sign to see the engine-fitters at the Ladywell Mine, and a large boiler at Minsterley Railway Station for that mine. Should we have a fair rise in the lead market this district will command attention by capitalists.—September 17.

MINER.

THE SYNDICATE SYSTEM OF SHARE-DEALING.

SIR.—Mr. Alfred E. Cooke has inaugurated in the *Journal* what is I think therein a new departure—the adaptation of the syndicate system of share-dealing. Of course many may know this has been practised by some outside brokers, but as now taken in hand by Mr. Cooke everyone may have confidence as to fair dealing in one known to so many of us, and the beneficial result of which I can verify by a cheque per this morning's post. The system, while probably lessening the detail of the broker, though not his necessary attention, allows a wider distribution of risks than any individual system, and it gives me pleasure, with your permission, to call attention to it.

September 17.

C.

THE WHEAL OWLES BALANCE-SHEET.

SIR.—I see in the *Mining Journal* of the 12th inst. that some one wishes to know why I place the balance against the adventurers on the asset side of the balance-sheet. It requires only a small knowledge of book-keeping to understand that in no other way could the two sides be made to agree. If all the amounts charged in the accounts had been paid and received respectively, and no further payments or receipts had taken place, the balance-sheet would stand thus:

Balance overdrawn at

bankers.....	£242 13 0	venturers as above £242 13 0
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This simple instance may serve to make the matter plain. I shall be glad if your correspondent or any other person can suggest any better method of presenting the balance-sheet; but the balance against the adventurers, if there be any, must certainly be placed in some form on the asset side, and if their is a balance in favour of the adventurers it will figure on the liability side. This does not make these balances assets or liabilities any more than a balance of cash in hand is a debt because it figures on the debtor side of a cash account.

RICHARD BOYNS.

Wheal Owles Mine, St. Just (West), Penzance, September 15.

MR. CONYBEARE ON THE COUNTY MEETING.

SIR.—The collective wisdom of the mining fraternity, as represented by a handful of landlords, merchant adventurers, bankers, and mine agents met on Monday last, at Redruth, and having spent some hours in mutual admiration appointed a committee "to collect information and consider these subjects."

Now, what strikes one first is the non-representative character of this meeting. Mr. M. H. Williams was careful to inform the outside world—those who had not been bidden to this feast of reason—that it was no "hole and corner meeting." To which the obvious retort is, *qui s'excuse s'accuse.* But assuming it to have been representative, what or whom did the assembled gentlemen represent? It would be a sin to hint that it was but a Vivianite committee meeting under a new name. But one is almost forced to such a conclusion when one reads the list of those who were present. Setting aside Messrs. Daubuz and Bolitho as being out of the division, the names of D. W. Bain, C. Bawden, F. Harvey, E. Heard, A. Lanyon, W. Rich, sen. and jun., W. Teague, Josiah Thomas, W. Vivian, &c., certainly represent the flower of Mr. A. P. Vivian's committees. And, if report says truly, the absence of the honourable Broad Liberal candidate himself was not owing to the want of an invitation. But that would have made the family party too complete. On the other hand, one looked in vain for a representative of the working miners; although a great parade of grandfatherly solicitude was exhibited on behalf of those who have now learned to think and act for themselves. The smooth men of the count-house have evidently yet to learn that they must condescend to discuss these, and other matters, too, with the rough men of the day. Then, too, where was Capt. Trevena or Mr. R. S. Teague? It would be interesting to know why they and others, too, were not invited. Col. Fludyer, who was present, but who was not invited, boldly told the assembly that they were meeting either 20 years too late or 10 years too soon. He might have added that the convener of this concentrated essence of uppercrust wisdom had summoned either too many or too few.

As to the actual business of the meeting, if the assiduous flogging of a dead horse can be so called, the Chairman was careful to lay down the lines on which the discussion was to proceed as being "to consider whether or not it was desirable that legislation should be sought to alter the present laws relating to the granting and renewal of the mine leases." Why, maister, exclaims a rough diamond outside the inner brotherhood, "where 'av ee been to this long while ago?" Af ee doant know as legilashun's waanted, there's others as does; so ee may just taake a back seat." To the credit, however, of the speakers be it said, that they showed themselves, in their reading of the situation, far ahead of their Chairman; and "one and all" declared in no uncertain voice that legislation is required.

But here we come to the most amusing scene in the whole of the farce. Here is an assembly of gentlemen, many of whom have been spending all their leisure hours of late in denouncing me for my revolutionary and altogether too abominable proposals regarding this question of mine leases; who have been threatening (like Mr. Wise Bain) to withdraw the whole of their interest (what a loss) from the mines in which they speculate—from course from purely philanthropic motives—who have been declaring (like Alfred Lanyon and Captain Josiah Thomas) that the return of Mr. C. A. V. Conybeare to Parliament would ruin the mining industry, and drive all capital out of the country; who have been (like Dr. Hutchinson) circulating absurd rumours—to intimidate the adventurers, I suppose—to the effect that Messrs. Bolitho would give no more credit. Here, I say, we have the henchmen of Mr. A. P. Vivian, who has become quite eloquent of late, in denouncing my proposals and Bills as utterly impracticable, and likely to lead to civil war and disaster, all striving to outdo one another in their advocacy of the very proposals which have for several months past been before the world in "Conybeare's Mines Leases Bill," the revised draft of which had already been stamped with the approval of the *Mining Journal* on the Saturday before this meeting of notables.

The Chairman thought a penalty might be provided for failure to obey clause 9 of the Stannaries Act. So have I, and accordingly it was inserted in my Bill. Mr. Rich thought there ought to be com-

pension for unexhausted improvements. I am delighted to think he so entirely coincides with my own views. Captain Josiah Thomas declared that capital had been driven out of the country, and legislation was absolutely necessary. "And so say all of us." What that legislation should be Captain Josiah told us the other day when, as Chairman of Mr. A. P. Vivian's Carharrack meeting, he declared that Mr. Vivian did not go far enough for him on more than one question, and that a Court of Appeal, in respect of mines leases, &c., must be constituted. Very well, Captain Josiah, you have it already provided in that Bill, which, a few weeks ago (if report be true) you were intimating would prove fatal to the mining industry. The only point on which all these forgetful (not forgotten) worthies differ from my Mines Leases Bill appears to be in respect of the payment of dues out of profits. But if this be so impracticable, as they would have us believe, why did they not advise their champion, Mr. Vivian, that he had better not go in for that doctrine? Mr. Vivian has such a horror of impossible legislation that it is really cruel not to save his sensitive nature from such unnecessary shocks.

Colonel Fludyer, whose uninvited presence was probably as pleasing to the invited guests as the historical skeleton of the Egyptian banquet, struck the right note with his usual frank directness of purpose when he declared that no legislation would answer unless it had as its cardinal points absolute fixity of tenure and dues upon profits. And in this he was nobly backed up by no less an authority than Mr. Moses Bawden, whose declaration that he thought "a Court of Appeal should be established for deciding the terms on which leases should be renewed, and for considering any questions which might from time to time arise as to the working of the mines," effectually cuts the ground from under the feet of those who may sneer at the proposals in that behalf contained in my Mines Leases Bill as absurd, revolutionary, or impossible.

As to the resolution which was passed, the less said about it the better. The best that can be said about it is that it was drafted by the Chairman, and as at the outset that worthy gentleman evidently had no settled belief as to the necessity of remedial legislation (why should he have any, by the way?) it is not surprising that he should ask for committee to collect information, and assist him to make up his mind. One feature in the resolution every working miner would be well advised to read, mark, learn, and inwardly digest. The committee are to report to a "general meeting of lords, shareholders, and agents, not miners. Oh, no, my friends, we will look after your interests. You go and work like good boys for 15s. a week, and be only too happy to strike every 15th blow of your picks for the enrichment of your lords. You work for us. We think for you. Capital idea! Division of labour (?) is the corner stone of political economy, and that, as of course you know, is the science of the production of wealth. Whether the miners will take exactly the same view of the situation may be doubted. But this the polling booth in November will show. Meanwhile, we may expect shortly to hear of the committee being called together, in order to add to its numbers a few representative working miners. Surely in vain is the net spread in the sight of any bird, and the Cornish miner is too old a bird to be caught with such chaff. I, for one, would advise him to answer—"Thank you for nothing," should any such invitation be hereafter proffered to him.

C. A. V. CONYBEARE.

THE MANUFACTURE OF STEEL CASTINGS.

On Saturday, Mr. B. F. M'CALLEM, of Glasgow, gave an address at the opening meeting for the winter session of the Iron and Steel Works Managers' Institute, at Dudley, presided over by Mr. R. SMITH-CASSON, upon "Steel Castings," which developed an interesting discussion upon steel-casting practice.

Mr. M'CALLEM said that it was 30 years since the first crucible steel castings were made in Sheffield in the general way, and, with one exception, the method of manufacture was pretty much the same now as at that early date. The improvement was the employment of gas furnaces instead of the old coke holes for melting. Important economies had resulted from this introduction. Where before it required 3 tons of coke to make 1 ton of steel the same thing was now done with 35 cwt. of very poor slack. Though it was apparently easy to make crucible steel castings it was not in reality easy to make a true steel—that was to say, to make a metal that contained only the correct proportions of carbon, silicon, and manganese. The only real way to make crucible castings of true steel was to melt the proper proportions of cast-steel scrap with the proper amount of silicon and manganese to produce that chemical composition which was known to be necessary in best castings. It was in consequence of this difficulty that many makers resorted to the addition of hematite pigs. The Bessemer process was used much more extensively upon the Continent than in this country in the manufacture of castings. It seemed likely that Mr. Allen's agitator, for agitating the steel in the ladle so as to remove the gases, would be taken up largely for open-hearth castings and open-hearth mild steel, as it had a wonderful effect. The Wilson gas producer, working in conjunction with the open-hearth furnace, had recently produced some extremely wonderful results. In some large works steel was by its aid being melted from slack which was previously absolutely a waste product. The method of making open-hearth steel castings might be varied greatly. The ordinary method generally practiced in this country was a modification of the Terre-Noire process. The moulds employed were only of secondary importance to the making of steel itself. Unless the mould was good, no matter how good the steel was, the casting was spoiled. The best composition which had been found for moulds was that of a large firm in Sheffield, but, unfortunately, it was rather expensive. A good steel casting ought to contain about 3% carbon and 3% silicon, and from 6 to 1% per cent. of manganese. Such a casting if free from other impurities would have a strength of between 30 and 40 tons, and on an 8 in. specimen would give an elongation of 20 per cent. or even more. It was possible by the Terre-Noire process to produce by casting as good a piece of steel as could be made by any amount of rolling and hammering.

The CHAIRMAN said that as they had so high an authority as Mr. M'Calleum present, Staffordshire men would like to know his opinion upon the open-hearth basic system, in which they were greatly interested.

Mr. M'CALLEM said that he believed that the basic process would be worked successfully in this country in the open-hearth furnace before it would be in the converter. At the Brymbo Works, in Wales, he had seen the basic process worked very successfully in the open-hearth furnace, and he was recently informed by the manager that he was producing ingots at the remarkably low sum of 6s. per ton.

The CHAIRMAN said that some samples which had been sent into Staffordshire from Brymbo for rolling into sheets had behaved admirably. He thought that the Patent shaft and Axletree Company, at Wednesbury, were at the present moment putting down an open-hearth furnace on the basic process.

The discussion was continued with considerable vigour by Messrs. H. FISHER (Vice-President), JAMES BIGBY, J. TIBBS, M. MILLARD, WALKER, W. YEOMANS (secretary) and others. Several of these gave it as their experience that the best castings contained the most blowholes, and Mr. M'Calleum accepted the pronouncement with some slight qualification.

A hearty vote of thanks to Mr. M'Calleum concluded the proceedings.

The *Génie Civil* publishes some interesting particulars with reference to the production and sale of petroleum in the Caucasus. There are about 400 wells in the vicinity of Baku, but only about half of them are at present being worked. The gross total of the petroleum extracted during the last three years is as follows:—800,000 tons in 1882, 1,000,000 tons in 1883, and 1,300,000 tons last year. Nearly the whole of this is converted into lamp oil at Baku itself, about 1 lb. of good oil being obtained for 3 lbs. of petroleum. There are 150 petroleum refineries at Tchorny Gorod (the Black Town), near Baku. In the course of last year, 200,000 tons of lamp oil, 190,000 tons of second-quality oil, and 500 tons of residuum were exported, these figures showing a slight increase over those for 1883 and 1882. The exports were distributed in about even proportions over the principal countries of Western Europe.

MINE LEASE REFORM.

A COUNTY MEETING IN CORNWALL.

On Monday there was a meeting at Tabb's Hotel, Redruth, representative of the mining community of Cornwall, convened by Mr. J. C. Daubuz, of the Carvedras Smelting Works, and the principal holder in South Frances and West Basset, to consider if legislation in mine lease reform was desirable. That veteran in Cornish mining, Mr. THOMAS SIMON BOLITHO, of Penzance, was elected Chairman on the motion of Mr. DAUBUZ. There were also present Mr. W. Teague (purser of Carn Brea and Tincroft), Mr. W. Heard (Truro), Mr. John R. Bramwell (Penzance), Mr. W. F. Michell (Redruth), Mr. Warington Smyth, F.G.S. (representative of the Duchy of Cornwall) Col. Fludyer (proprietor of Violet Seton), Mr. F. Harvey (Messrs. Harvey and Co., Hayle Foundry), Mr. Taylor (Messrs. Tayler and Sons, London), Mr. Walter Pike (purser of Dolcoath, Cook's Kitchen, West Frances, and New Cook's Kitchen), Capt. Tregay, Capt. Josiah Thomas (manager of Dolcoath, West Frances, Cook's Kitchen, New Cook's Kitchen, and South Crofty), Mr. Robert Symons (Truro), Mr. Thomas Pryor (purser of West Seton, Wheal Peevor, and West Wheal Peevor), Mr. Cornelius Bawden (purser of Wheal Agar, West Basset, and South Frances), Capt. Rich (South Condurrow), Mr. J. Jose (Melingey), Mr. Alfred Lanyon (Redruth), Mr. D. W. Bain (Portreath), Mr. J. C. Daubuz (Carvedras Smelting Works), Mr. M. H. Williams, Mr. Moses Bawden (Devon Great Consols), Capt. Vivian (West Kitty), and Mr. W. Rich, jun.

The CHAIRMAN said he could only come to the conclusion he had been selected for the position, inasmuch as he was the oldest man in the room. (Hear, hear.) Now he would ask Mr. Daubuz to explain the object of the meeting, and its origin? (Hear, hear.)—Mr. DAUBUZ remarked that in the first place he must apologize for appearing somewhat presumptuous in convening that meeting by circular. But he thought the question was of such importance that a conference would do good. The circular sprung out of a conversation at which Mr. Bolitho (the Chairman) was present, and considering the wants and exigencies of Cornish mining, he felt he could not do better than to issue the circular he had. (Hear, hear.) The subject was somewhat ventilated at the meeting of the Mining Association and Institute of Cornwall, at Lanhydrock, and it was because the matter was so well received that the circular was issued directly afterwards. He had to thank them for responding so readily to the invitation. From several gentlemen he had had letters expressing inability to attend. From Mr. Henry Rogers (the purser of East Lovell), Mr. T. W. Field (tin smelter), and Mr. W. Polkinghorne (purser of West Phoenix United Mines, Liskeard). Mr. Polkinghorne wrote that he had lately been in communication with Lord Idesleigh with regard to the proposed Commission for making an enquiry into depression in certain branches of British industry. Mr. Polkinghorne had also seen, and spoken to Sir Massey Lopes on the subject, and when the time came he believed the request would be made to the Mining Association to nominate two gentlemen who would appear and give their evidence on the condition and position of Cornish mining with regard to the importation of minerals. He (Mr. Daubuz) might add that the Mining Institute had discussed this subject for the past 12 months.

The CHAIRMAN here read the circular, which asked if it were desirable, or otherwise, to have legislation on the matter of Cornish mine tenure. Now, said he, the first point they had to consider, he thought, was whether it was desirable or not; and if desirable what legislative measures they should seek with respect to the renewal, or granting of mine leases. Should they approve of the present system, or leave the case to public opinion, which was a powerful factor. He should be glad, in the first instance, to hear any gentleman on that point. He would ask Mr. Teague, who represented a very large interest to give them his views. (Hear, hear.)

Mr. TEAGUE thought that as far as it went the circular was very specific, and that meeting was called upon for an expression of opinion from the mining community generally. They were asked if they were satisfied with matters as they now stood. Well, some of them, he supposed had been treated fairly. Others said they had been treated rather harshly, and a great deal of stress had been laid upon this—why they should not manage their own bargains as hitherto. So far as the latter suggestion was concerned he was thoroughly in favour of that independence being preserved. (Hear, hear.) Yet they were now placed on a fair footing with the lords of the soil. They wanted something behind that would back them up. Now the lord was all powerful. (Hear, hear.) He thought that the miners should be backed by something like legislation. (Hear, hear.) What that legislation should be was not for him to say; but he should like to see something that would place them in a better position than they were at present in the matter of requiring a renewal of a lease—(applause)—or if they wanted a new lease. But times must alter considerably before they would trouble lords about new leases, and his opinion was that unless something were done that period would be yet further remote. (Hear, hear.) It could not be lost sight of that now they were under a cloud. That cloud had been hanging over them for some time. The action taken by some of the lords was sufficient evidence for him that such action had acted as a barrier to mining—for the asking for new leases, and for the starting of new speculations. And unless they could have something to fall back upon that would enable them to go to the country for capital, he feared they would go a begging. He did not say what form the lease should take. But what chance had they in appealing now to Lord A., B., or C.? Some remedy was absolutely required. The treatment that had been meted out in Cornish mining he considered to be almost a stigma on the industry; and that stigma must be removed before additional capital could flow into the county. In expressing that opinion he might be wrong, but he thought not; in fact, his experience did not tell him so. It was an every-day experience that they found Cornish mining under a very deep and heavy cloud. Let them look at their own district. There were only several mines in which any business was done, whereas formerly there were thousands of pounds of business transacted. And in those days, if they had a mine share to sell they could obtain a fair and reasonable price for it. Now it was only shares in the pick of the concerns that could be sold at all. There must be some cause for all this, and he believed that the meeting would arrive at some practical conclusions as to what must be done for the future. And he must assert that if they did no better in the future than they had done in the past they must shut up. There was no question about that. And he thought if they could only establish something on an equitable and fair basis the outside public would be satisfied, and capital would again flow into the county. (Hear, hear, and applause.)

Mr. DAUBUZ said Mr. Waddington (London), of Wheal Agar, and Wheal Basset, could not attend, but had sent a letter embodying his views. The letter was to this effect:—"I have given this subject a good deal of thought, but I cannot say that I have arrived at a solution of the question—that any change would be beneficial to the mine adventurer. It is said dues upon profits are the right thing. What profit? The profits upon capital invested, where in Wheal Agar the capital sunk by the present company exceeds 100,000/-, or monthly profits on outlay for the month? Surely some consideration is due to the adventurer who spends such an amount, and a life in it, different to our neighbour—East Pool—who never expended 4000/-, and has been rewarded by 250,000/- in dividends. Is there any equity in laying down a hard and fast line that, say, for argument, the dues on these mines shall be 2 per cent. on the gross returns, or what per cent. on profits? Again, should Mr. Basset be compelled to accept, say, 2 per cent. from East Pool, which is so situated as to throw all the cost of pumping the water of abandoned mines upon a neighbour? This is a case in which right and equity require legislation more than the dues question. No alteration as to dues upon profits seems to me possible without leading to disastrous results. For instance, tin to-day is 120/- per ton. (Capt. TEAGUE: I wish it were, and laughter.) It is the lord's interest, and the adventurers' interest this should be returned at the high price. It is done, and a large division of profits results. Tin drops to 80/- The reserves of the mine are gone at the high price, and to continue

working calls must again be made if the mine must not be shut up, which in all probability it would. It may be said the dues upon profits in Germany are 2 per cent. Granted, but Germany raises so minerals worth 50/- per ton: 2 per cent. upon lead means 10 per cent. upon tin if we go upon amount of cash. Dues upon profits mean the curtailing or abandonment of cross-cuts, and development of poor places—not necessarily, but it is more than probable. The question of dues upon profits would be fertile in disputes and disagreements between the lessee and the lessor, and not, in my opinion, calculated to further the interest of the miner, adventurer, or lessor. The solution of the question appears to me out of the range of legislative interference. If all lords will follow the initiative of Lord Robartes—(applause)—fixing the amount of dues according to the price of metals, the amount of capital spent in the development, and the proportion to such expenditure, the adventurer can have no cause of complaint. Lord Robartes has acted as a man who recognises the responsibility of wealth and position, and his duty to his fellow men. (Applause.) Mr. Basset has also acted in a praiseworthy manner in not only foregoing dues altogether at Wheal Basset, but contributing to the working expenses at Carn Brea and other mines. If Mr. Basset could, by application to one of the Courts of Justice secure the amendment of that restrictive clause in his life tenancy which prevents his granting leases at less than 1-16th dues for periods longer than his life little fault would be found. When this restriction was made the mines around Carn Brea Hill were giving immense profits on little or no outlay—hence what was then reasonable is no longer so, the mines being heavily weighted by depth and water charges. Some better understanding or restriction as to leases and their cost should be made. Substantial buildings erected by any company should be sold by the adventurers or taken in valuation by the lord. If any difficulty should arise in the mode or manner of working the mine it should be referred to arbitration. Personally, I prefer to go on as we are now doing, having no faith in the prosperity of an industry or people where one or other side is not at liberty to make his own or such bargain as he thinks necessary or just. I believe our position as a nation is due to the enterprise and freedom which the people have enjoyed, unfettered by laws, commissions, or Inspectors, the imposition of which would at once stifle enterprise, and cause mines to be abandoned."

Mr. DAUBUZ remarked there was one point he thought should be mentioned that day, and it was that that meeting was not called in any spirit of hostility to the lords. (Applause.) He should be the first to acknowledge how much they were indebted to their liberality. Of this there could be no doubt; in the great majority of instances the lords had acted in an exceedingly liberal manner. (Hear, hear.) There were some few instances where it occurred to them that hardship had been inflicted, arising probably from misapprehension of the facts on the part of the lords themselves, or want of information as to the circumstances of the case on the part of their agents. This only went to prompt a better understanding; if it could be arrived at would be mutually beneficial to the lords and themselves as a mining community. He thought this should clearly be understood to be the key-note of their meeting.

The CHAIRMAN hoped the meeting would fully agree with what had fallen from Mr. Daubuz as to their feelings towards the lords. Were there such an intention he should wipe his hands of the matter. (Hear, hear.) Great consideration he could personally testify had been shown by lords, and he hoped no expression would fail that could be considered as being hostile to the lords. And should they determine that there should be legislation, he trusted they would ask the lords to join them. (Applause.) The question before them was this—Was it desirable, or not, that an Act of Parliament should be passed on the subject of Cornish mining, to regulate in any way the present system for a renewal, or granting, of mine leases? There were several gentlemen present competent to speak on the subject. The question had been discussed as far back as 1869, on the passing of the Stannaries Act. Had the time arrived when something should be done?

Mr. ROBERT SYMONS (Truro): I am one of the many who think a change should be made. I have long been of opinion—and I think the opinion is entertained by a great many who do not like to speak their minds on the subject for fear of giving offence to the lords under whom they work—that reform is necessary. As I have no fear of that myself, I have given expression to my opinion from time to time in newspapers, and the Bill which appears in the *Western Daily Mercury* to-day, of Mr. Conybeare, contains reasonable revision which, I think, should generally be adopted by this meeting. But I do not know why you have such antipathy to Mr. Conybeare—The CHAIRMAN interrupting: I really must ask you to desist from even using Mr. Conybeare's name. (Applause.) We do not come here to discuss Mr. Conybeare's Bill. (Hear, hear.) The question is before the meeting—is it, or is it not desirable there should be any legislation?—(applause)—and to that point I must ask you to confine your remarks. (Hear, hear.)

Mr. SYMONS: Leaving out that name altogether I say that legislation is necessary with regard to the working of Cornish mines. Hitherto we have had many difficulties in obtaining rents. I have myself experienced that. Continuing, Mr. Symons said on one occasion he went to a lord's agent in respect of a sett, and he was informed he could have the sett, but he must pay 100/- a year minimum rent. In another case he was asked 25 guineas down at once, and 50 after for minimum rent. This shut that up for a time. They should have the power of going on reasonable conditions. His contended power should be granted by Act of Parliament to allow them to enter land even where the lord refused. As a general rule the lords did not consent until they obtained terms that were not reasonable. Then, too, leases should be granted on longer terms than 21 years. (Hear, hear.) Leases should be of 60 years, with power of re-entry. He contended that dues should be paid out of profits only. He condemned the system which compelled them to pay 100/- an acre for waste land that was not worth more than 20/- an acre. He cited a personal case, where the lord would not be satisfied with less than five years' minimum rent paid in advance. Legislation was necessary, and the question was who should prepare a Bill to bring before Parliament, and what the provisions of that Bill should be.

The CHAIRMAN said that if it should be determined that legislation was necessary the principal object would be to appoint a committee, who should say what was necessary. That committee would report to a larger meeting, which would meet after the reassembling of Parliament. He knew there were those who said no reform was necessary—that the Dolcoath incident had set everything right. But should an Act of Parliament be obtained? There were several other points connected with mining that should be considered in any legislation that might be attempted. There was the case of abandoned mines. He instanced a mine in the parish of Morval, in West Cornwall. There the mine stopped, and the men were owed from 300/- to 400/. The men had a magistrates' order, he believed he himself signed it. There was ample property to pay the men, but two days before the notice expired a creditor came in under an execution, and carried off the whole of the property. Those poor men waited two years, and then received some 7s. or 8s. in 1/-, losing the remainder. That was only one of several instances that had occurred. There had been a similar case even during the past few months—that of Owen Vean and Tregartha Down. The men came to him in a very large body. He had nothing to do with the mine. They informed him they were owed between 600/- and 700/. It was a Limited Liability mine, and the shareholders had mortgaged the property to somebody in Glasgow, who had taken possession and sold the property, and the men were left out in the cold. The manager of the mine—Mr. Derry—induced some of the shareholders to contribute towards the payment of the wages, and he believed the men were paid 200/-, and after that 200/- more. If he mistook not, some hundreds of pounds were now unpaid. That was unfair. (Hear, hear.) In the case of domestic servants, wages claimed priority over all creditors if the master went into bankruptcy, and the same principle should apply in mining. Some years ago when Sir (then Mr.) Richard Cross was Secretary of State, he saw him on this very subject. Sir Richard Cross, in so many words, told him this should be altered; but he believed there was no change of Ministry, and the promised reform fell to the ground. Should

they that day elect a committee, he would venture to suggest for their consideration whether there might not be a clause introduced to give the miners preference over everybody else as regarded labour and wages. (Hear, hear.) There were several other things which he thought might be dealt with in an Act of Parliament. In 1869 they passed the Stannaries Act. He did not mean the Act of Parliament constituting the Stannaries Court. The Act of 1869 had proved very useful to Cornwall. It had enabled the purser to collect calls, whereas before it was very difficult to do so. But there were clauses in that Act which were very inefficient. There was one clause which stated the purser should make out a statement of a mine's financial position not less frequently than once in 16 weeks. But there was no penalty for this not being done, and he was sorry. And he would suggest a penalty in this matter.

Capt. RICH (South Condurrow) was not there to oppose the landlords. He had the greatest kindness for them. He should have been glad to have seen every landlord there that day. He had spent a lifetime in mining, and he had never had a difficulty with them. When he took charge of South Condurrow the lease was on 1-18th dues, with 10 years to run. When the new lease was granted it was on 1-24th dues, and they were given an extension of their sett. In the St. Agnes district all the mines would have been shut up but for a gentleman present connected with the Duchy of Cornwall. The dues were omitted. He thought, however, legislation was necessary to prevent abuses creeping in. (Hear, hear.) He felt that the working of the mines upon profits was out of the question. He thought there was no chance of that. The present system was all right provided no excessive rent, no excessive fine, crept in. He thought—and he stated so at Dolcoath—compensation should be paid for improvements made, and not taken away in case of the compulsory surrender of a lease. Were they to stick to these contentions he believed they would be all right, and he was of opinion that this might be done after the political excitement in the Division had passed away. There were several things that should be remedied. Take, for instance, waste land, for which they paid 100*l.* an acre. Then, when a mine was abandoned, even the engine-houses went to the landlord. Again, there were the Limited Liability companies, in which abuses crept in. There were strong reasons for an alteration in mining.

The CHAIRMAN appealed to Captain Josiah Thomas, as a representative mining man, for his views.

Captain JOSIAH THOMAS: I have said again and again that I think legislation is absolutely necessary. I do not wish to say anything against the landlords. I know some landlords have acted very liberally to the mining community, and I would trust them implicitly. But other lords have acted in such a manner as has almost destroyed the confidence of outsiders. I know some gentlemen in London, and other parts of the country, who have almost been driven out of the county. Capital has been withheld from coming into the county by reason of the action of the lords. Some kind of action is absolutely necessary if confidence is to be restored. (Applause.)

Mr. WASHINGTON SMYTH, F.G.S. (of the Duchy of Cornwall): I would rather, Sir, not have been called upon on the present occasion, since I hardly appear here as an adventurer in Cornish mines, for the simple reason that in taking an appointment with the Duchy it was a condition that I should not be an adventurer in the mines. I must, however, say that being a very large adventurer in the North of England, and in various foreign countries, having gone through the process in some cases of dropping money, I may speak with sympathy with all I hear on the subject of the Cornish mines; and from having been intimately associated with them for so many years I may say in sympathy for the miners themselves, for the adventurers, and agents, and now I think there is nobody here present would exceed me. (Applause.) It is, however, a very difficult point for a lord's agent at this moment in the matter to either suggest or consider some of the points which have been brought forward. I was desirous—very desirous indeed—to hear the opinion of those agents of the mines who have for a great number of years had the advantages, or suffered the disadvantages, of the present system. I was very anxious to hear what are the objections. So far as lies in my power we should be very desirous to smooth down all the difficulties that may occur. (Applause.) And I must say with reference to the mines of the Duchy that whilst hundreds of applications for either reduced royalties, or for a remission of rents, or matters of that kind, I do not remember of any single occasion that the authorities have declined to agree with the propositions I have brought forward. (Applause.) I have great confidence in appealing to agents who have been concerned with the Duchy to back me up in saying that perhaps nowhere will they have met with greater liberality than in the terms that have been made with them. There are naturally some objections here and there. Proceeding, Mr. Smyth said there were one or two points he thought he had a right to mention. It was proposed that royalties should be taken only upon profits. Now, he had had a great deal to do with foreign mines, and in connection with them there were many appearances which on paper appeared very agreeable indeed, but these were very difficult to be carried out in practice. He did not see why a mine should stand on a different basis to a shop, or a farm. He knew from experience that if they were to deal on profits they would find it an extremely difficult matter, leading to every sort of dispute and lawsuit in order to determine what those profits were. It looked all right to see the practice in Germany, Italy, and other countries, of assessing dues at 2 per cent., in some cases on profit, in some cases on the general produce. He knew this, that at the same time it subjected them to an amount of inquisition and meddling, and interference to which he thought none of them as Englishmen would like to subject themselves. They could not sink a shaft, put down a winze, drive an end without having to submit their plan to the Government authorities. It would be almost necessary for every mine to have a separate mining inspector. When they came to actual practice the matter was extremely difficult. It looked a simple matter, too, in Spain where for a small sum they were supposed to take up an area, but thousands were demanded by those between the applicant for the sett and the Government authorities.

Mr. ALFRED LANYON remarked that for many reasons just at present he thought he should not say anything. His own feeling was that he could endorse most emphatically that it was necessary that nothing short of legislation would meet the case. He felt satisfied the outcome of that meeting would be legislation. He was exceedingly glad to have heard the speech of Mr. Smyth, for he was quite certain he had put them in possession of information which they had not before had. It would show people what was the rule in foreign countries, and that they were there in a worse position than had been said. The speaker referred indignantly to those who started setts under the Limited Liability System, not caring whether the mines would prove successful or not, and argued that the lords should have discretion in this way. That question must be considered on both sides. Those present would look upon that question apart from party politics; they would look at it equally in the interest of the working mine as in their own. (Applause.)

Colonel FLUDYER was the next gentleman desired to express his views. He said the first thing that struck him, upon seeing the matter in the newspapers, was that they were 20 years too late and 10 years too soon. (Laughter.) He said too soon, as he thought the M.P. to represent that division should have their views and opinions, and all the rest of it. One word about legislation. He did not think any legislation would answer unless they had absolute fixity of tenure and dues on profits. Look at their fellow-subjects in Ireland. Some of the small farmers, by the law of the land, were not allowed to be turned out. In the case of themselves in Cornwall, Brown, Jones, and Robinson might go and take a sett. They might lay out 100,000*l.* in developing that sett in which they have a lease of 21 years. They toiled away, perhaps, for 18 years, and then cut a bunch of tin, or a lode of ore, and they laid open a valuable property. In five years' time the property was actually gone to the lord, if he chose to take it, for the value of the machinery, or they had to submit to a very heavy fine. That was not fair. There should be legislation to compel bad landlords to do that which good landlords did as a matter of course. Unless they had absolute fixity of tenure as one

of the basis of the thing he did not see how capital was to come into the county. He did not say anything of the landlords. They had made him a Radical, but that did not matter. He had had it rather hot from the lords. (Laughter.) Not that they had exceeded their powers. He lost a large sum at St. Austell, and that loss cost him his commission in the Guards. He asked Lord Falmer not to press him for dues when he came to the "bast up." (Laughter.) He then owed in dues 300*l.* or 400*l.*; but he had raised 10,000*l.* worth of tin, and had not profited a penny. He received in reply a letter from his lordship's agent, Mr. Julian Hill, who let him off with six months' grace. He saw his solicitor, and said this would not do; they must be "Up Guards and at 'em." (Laughter.) Mr. Marrack said he would do what he could, and he went home rejoicing. But within three months his solicitors had three lawyers' letters. He said—"Make out a cheque, and if we have no money we must knock down somebody and steal it." (Loud laughter.) He had another sett, and he had to pay 600*l.* in advance, and he asked the Chairman if that was not pretty hot. He had not had a penny back for the money he had invested, and in that mine he had been giving pays for thirteen years. And at the end of 21 years, if the mine cut rich, the lord might take the property away, or inflict a fine. There was an old engine-house at East Seton, and he wanted to build an engine-house at Violet Seton. He was given permission to remove the stone, and as soon as the house was up in came a bill for 16*l.* 10*s.* for stone. Was that not a little hard, for the two mines were of the same lord's property? He did not wish to say anything against the lords: they were doing what the law allowed, but should the law allow it? He had appealed to a friend in London to come in, with some others, and help him in a promising speculation in Cornwall. Two or three days after he went to his friend smiling and happy, thinking he would love that assistance. But his friend said, "Colonel, my friends will have nothing to do with the Cornish lords. They would join any undertaking with which you are concerned, but not with the lords," and, continued the Colonel, he used language more Pagan than Parliamentary. (Loud laughter.)

Mr. EDWARD HEARD thought there could not be a doubt about this matter; they could not be indifferent to what had been passing during the past few years. They might take South Caradon. He was an adventurer there. He came in at the high price of shares. A year or two afterwards the shareholders of this mine, which had been developed by the adventurers in a most businesslike way, were told, it was said on political grounds, a renewal of the lease. He thought that a manifest injustice. Then there was the case of Wheal Hony and Trelawny. That mine was developed up to a certain point; but Dr. Hony, or his executors, refused to grant a lease of the adjoining mine, and consequently what would have taken only a few pounds to prove the ground a few fathoms absolutely cost 40,000*l.* Coming nearer home they could not fail to remember it was Hobson's choice—take it or leave it. Unless they paid the fine they must give the mine up. Had they pursued the matter to the bitter end, probably 3000 or 4000 persons would have been out of employ. But wiser counsels prevailed. They tried to get a more reasonable sum, and although they did not pay the whole fine, they paid much more than they should have done. He thought that something should be done in regard to mine accounts. He could not fail to remember that people out of the county would not touch a share, because they had not faith in the account. He took credit to himself for once for adding two or three words in that direction in an Act of Parliament. It was in reference to a Cost-book mine showing its financial position not less frequently than once in four months. He found afterwards that the penalty imposed in the first Bill had been left out. The consequence was there were mine meetings that had been lengthened between periods. He thought that matter was worthy of consideration. There was, he might say, another injustice inflicted on the mining adventurers. Look at the assessment of the parishes of Camborne and Illogan. The mines and streams in Camborne had to pay on one-third, and while Illogan was assessed at 26,788*l.*, the mines and streams paid rates on 9942*l.* The latter was even still a larger proportion. Therefore, he recommended, as a small mining adventurer, that legislation was necessary. He took that they did not, as Cornish gentlemen, come there otherwise than to do the right thing as between landlord and adventurer. A resolution was indispensable. In future it should be impossible for lords to demand 100*l.* and 150*l.* per acre for barren wastrels not worth 20*l.* per acre, and, also, justice should be held out to the mining adventurer in the shape of compensation for unexhausted improvements. (Applause.)

Mr. MOSES BAWDEN (Devon Great Consols) supported. He bore testimony to the liberality of the Duchy. He, at the same time, thought something should be done by way of legislation in regard to what might arise with leases and during dispute. He thought that in respect of the question generally there should be a Court of Appeal. With such a Court he thought a deal of trouble would be saved. But there should remain liberty of contract.

The CHAIRMAN did not think it was proposed to interfere with liberty of contract in the first instance. He thought the question of the Court should come up—if it came—at the end of the 21 years.

Captain TEAGUE pointed out that when the rating of mines was decided upon the lords were called upon to pay one-half.

The CHAIRMAN: On the then existing lease.

Captain TEAGUE admitted that was so; but when he made his first application, he was told the lord had contracted himself out of that little affair. (Laughter.) Most of them had been working ever since under existing leases.

Captain JOSIAH THOMAS: Nobody ever had a farthing.

During further discussion, it was admitted that labourers were entitled to three months' wages in the event of the stopping of a mine in priority to all others, but in the case of a Limited Liability mine being mortgaged there was no help if the contrary occurred.

Mr. M. H. WILLIAMS took the opportunity of saying that was no hole and corner" meeting, as had been said to him. It was intended as representative of Cornish mining people. They, however, did not wish to consider the thing thoroughly till after the General Election.—Mr. DAUBUZ seconded this statement.

Mr. WILLIAMS moved, and Mr. A. LANYON seconded, the following resolution, which was adopted:—"Questions having arisen during the last few years with reference to the principles that have been adopted in the granting and renewal of mine leases, and there being several points in connection with the mining industry of Cornwall which might probably be advantageously settled by some legislative enactment, more especially the claims of working miners being paid in preference to all other creditors in Limited Liability, as well as the amendment of some of the clauses of the Stannaries Act (1869) and the Mines Rating Act, it is resolved that a committee be appointed to collect information and consider these subjects with the view to the preparation of a report, to be laid before a general meeting of lords, shareholders, and agents, to be held as soon as may be convenient after the middle of December."

The following committee was appointed (the lords to have power to nominate five):—Mr. T. S. Bolitho, Mr. D. W. Bain, Mr. J. C. Daubuz, Mr. M. H. H. Williams, Capt. Josiah Thomas, Colonel Fludyer, Mr. A. Lanyon, Capt. Rich, Mr. John R. Branwell, Mr. T. Pryor, Mr. W. Pike, Mr. F. Harvey, Mr. C. Bawden, Capt. Bishop, Mr. Moses Bawden, Mr. Taylor, Mr. Teague, and Mr. Edward Heard, with Mr. W. Rich jun., secretary.

Mr. WILLIAMS in proposing a vote of thanks to the Chairman, which was agreed to, expressed his pleasure in having the services of one who was a tower of strength in the country.

HOLLOWAY'S PILLS.—Sudden transition from heat to cold, or from raw inclement weather to oppressive climates, favour the development of manifold diseases, which in most instances can be checked and rendered abortive by an early resort to these purifying, regulating, and strengthening pills. This well-known and highly esteemed medicine affords a safe and easy remedy for almost every constitutional wrong which unhealthy climates, rapid changes, or dietary errors, can engender, and effectually removes any weakness self-indulgent habits may have induced. In all conditions of the system bordering on disease such as are indicated by apathy, listlessness, and restlessness. Holloway's pills will prove especially serviceable in begiting the vivacity of mind and body appreciated by both sound and sick.

Trade Reports.

CORNWALL.

September 17.—All things considered, there has been very remarkable inactivity in the mining market, and hardly any topic for profitable comment presents itself. We cannot ourselves make out that there is any material change in the prospects, and certainly the mines continue to look up well. It is not very often that matters appear so thoroughly at a standstill, and some decided move can hardly be long delayed.

There seems to be a belief that the stoppage of South Caradon may be averted, but whether it is well grounded or not we should hardly like to express an opinion in the absence of any publicly reliable facts. It was stated at the auction that while the mine had paid dividends to the amount of some 400,000*l.*, the lords had received over 90,000*l.* in dues, or, in other words, something like 20 per cent. on the total profits, without risk or labour. South Caradon is worked on what was a barren moor, and the probability is that instead of this 90,000*l.* the land would have produced in the aggregate less than 500*l.* in the period covered by the South Caradon operations had the mine not been started. And it must be borne in mind, too, that in addition to the dues all the land really occupied has been most handsomely compensated for, so that this 90,000*l.* is all clear profit, and yet the "liberality" of the lords of South Caradon to the adventurers has become a bye-word and a reproach whenever it is spoken of.

It is a little bit difficult to be quite serious in commenting upon the meeting of representative mining men, convened by Mr. Daubuz, at Redruth, to consider whether mining as an industry needs the aid of legislation. Not that we have the slightest question concerning the object of the gathering or its general tone. It is really only too apparent, however, that the situation has been forced by the action of Mr. Conybeare in drafting his Mines Leases Bill, and it would have been quite as well not to have attempted to ignore this fact. At the same time we do not mean to imply or admit that it was really left to Mr. Conybeare to discover either the evils of the modern mining system or to suggest a remedy. On the cardinal feature of all real reform, the levy of dues upon profit, we have insisted in these columns whenever the opportunity has afforded, for years, and without the smallest approach to a response from the recognised leaders of mining enterprise in the county. Now, however, all is changed; everybody has become a reformer; and the transformation, as we have hinted, has really an amusing aspect, especially to anyone who finds views that have been so long proclaimed apparently without effect enunciated as if they were really a novel discovery.

Whether the time would have been ripe if the organised effort now begun had been made years ago we can hardly venture to say; but we are quite sure of this—that if Mr. Pendarves Vivian had made the suggestion, even 12 months since, he would have found practically no backers, and would have had to abandon the idea. The reluctance to move that has characterised what may be called our mining as distinct from our party politics has been really something marvellous.

SOUTH WALES.

September 17.—The coal returns for the month of August at the principal South Wales ports were as follows:—Cardiff, 546,651 tons foreign, and 76,028 coastwise, and 27,048 tons patent fuel; Newport, 157,723 tons foreign, and 97,216 coastwise; Swansea, 61,149 tons foreign, and 60,111 coastwise, with 28,224 tons patent fuel. This shows an increase of about 6000 tons foreign at Cardiff compared with the corresponding month of last year, 20,000 tons increase at Newport, but a falling off at Swansea of about 28,000 tons. The shipments of coal foreign for the first eight months of the present year at Cardiff were 5,543,428 tons; Newport, 1,986,282; Swansea, 1,045,577. Last week Cardiff sent away 124,094 tons foreign and about 19,000 coastwise, with 3337 tons patent fuel; Newport, 32,199 tons foreign, and 24,768 coastwise; Swansea, 16,912 tons foreign, and about 15,000 coastwise, with 2345 tons patent fuel. Prices are a little weaker all round. House coal has not yet shown any signs of improvement. Patent fuel and small steam coal are in good demand. Pitwood is plentiful and cheap, 16*s.* per ton being the present quoted price.

The Miners' Permanent Provident Society for South Wales and Monmouthshire is making rapid progress. The amount of funds in hand at the end of June last was 25,676*l.* The relief paid during the second quarter of this year was as follows:—funeral allowances, 260*l.*; widows, 326*l.* 10*s.*; children, 298*l.* 19*s.* 10*d.*; disablement pay, 3256*l.* 3*s.*

The returns of iron and steel reported in the month of August were:—Cardiff, 9532 tons; Newport, 12,384; Swansea, 19. The totals for the first eight months of the present year were:—Cardiff, 47,845 tons; Newport, 81,192; Swansea, 2961.

The Forest of Dean and other places are showing signs of revival in the iron trade. Last week Cardiff sent away 2047 tons. Iron ore arrived at Cardiff from Bilbao to the extent of 9609 tons, and 2631 from other places. Newport received 9609 tons from Bilbao, and 1700 from other places.

NORTH AND SOUTH STAFFORDSHIRE.

September 17.—The collieries have rather more work to do than for some months past. Furnace, forge, and ordinary manufacturing fuel is going off with more energy, and the sales of house coal are also growing. The improvement at present is not great, but it is very welcome. Better prices to the extent of 3*d.* or 6*d.* per ton are also being realised, and the future is regarded with increased hopefulness. Staffordshire forge coal is 5*s.* 6*d.* to 6*s.* 6*d.*; mill, 6*s.* 6*d.* to 7*s.* 6*d.*; furnace, 7*s.* to 8*s.*; and best furnace 9*s.* to 10*s.* Mill coal on the Chase is 6*s.* 6*d.*, and steam 5*s.*. Best deep house coal is 9*s.* to 10*s.*, and second-class collieries will accept for the same seam 8*s.* to 9*s.* per ton. Ores and cokes show increased sales, but prices are not at present stronger. Pig-iron is firm at 3*s.* to 4*s.* for Derbyshires, and 3*s.* to 3*s.* for Northhamptons. All mines are 5*s.* 6*d.* to 6*s.* 6*d.*, "Copperfield" (native) best pigs are 4*s.* 6*d.*, and common 3*s.* 6*d.*. Darlaston pigs from Northampton ores are quoted 3*s.*. Representatives of the hematite makers are quoting this week an advance of between 1*s.* and 2*s.* per ton over the prices of a month back. Some agents have offers to buy 4000 or 5000 tons, but terms cannot yet, in all cases, be "arranged" with those who make the offers. Manufactured iron has improved in demand upon the week, and there is greater activity at the mills and forges. The tin-plate mills in Wolverhampton of Messrs. E. P. and W. Baldwin have been shut down this week, and the business will be transferred to the firing works at Wilden. The Wolverhampton works were not, however, of much account. Marked bars remain at 7*s.* 10*s.*, and common at 6*s.* to 5*s.* 10*s.*. Sheets (doubles) are 7*s.* 5*s.*, and singles 6*s.* 17*s.* 6*d.* per ton.

The North Staffordshire Chamber of Commerce by successfully exerting its influence in modifying certain provisions in the Manchester Ship Canal Bill, 1885, which were hurtful to the trade of the Potteries, have benefited largely the trade of the whole of North Staffordshire. Practically the whole of the raw materials used in the Potteries, and much of the manufactured goods, have to pass along the tideway of the Mersey; but as the canal is to be interposed between that tideway and the inland canal com-

munication, serious obstacles to the traffic were threatened. Notice of opposition to the Bill was given by the Chamber, and as the result of interviews with the Parliamentary Committee of the ship canal, adequate protection has been afforded to those traders of North Staffordshire who use the tideway of the Mersey. The expense incurred by the Chamber in obtaining these valuable concessions was only 150*l.*, and it was decided at their monthly meeting last week to appeal to traders in the district to aid in defraying this sum.

LANCASHIRE.

September 17.—For the present makers still hold firmly to their advanced prices, as they prefer to work in with the orders they have been able to secure rather than attempt to press further sales, but buying of any weight has been checked by the price now being asked, and iron in second hands can be bought at under the full makers' quotations. For local and district brand makers are firm at 3*s.* to 3*s.* 6*d.*, less 2*½*, as their minimum for delivery equal to Manchester, with, however, only a limited business doing at these figures. Outside brands are not held so firmly, and both Scotch and Middlesborough iron can be got at under makers' prices.

Rather more business has been coming forward in hematites, and a slight advance upon the late minimum rates is being got, but the average bases of prices is still very low.

In the manufactured iron trade there has been a tolerable weight of business coming forward from merchants, and most of the forges have now sufficient work in hand to keep them fully going. Makers have not been able to establish any actual advance on the bases of 5*l.* 5*s.* for bars, 5*l.* 15*s.* for hoops, and 6*l.* 15*s.* for local-made sheets delivered into the Manchester district; but they are showing a much firmer tone and are declining to sell at all largely at the above figures.

The only movement in the coal trade is still confined to the gradually increasing demand for house-fire coals as the winter approaches, and a little extra buying in anticipation of an advance in prices next month. Other descriptions of fuel still meet with an extremely slow sale, with prices quite as low as ever. The increased demand for house-fire coals has enabled a few collieries to get on to full time, and in some instances they are very busy with shipping orders; but there is no general activity, and the bulk of the collieries in Lancashire are still only working four to five days a week. For the best coals prices tend to harden and concessions which were previously being made on list rates have generally been withdrawn. Best Wigan Arley at the pit mouth now averages 8*s.* 6*d.*, with 9*s.* per ton quoted in some cases; second qualities, however, remain at about 7*s.* to 7*s.* 6*d.*, and ordinary qualities of Pemberton Four-feet are still to be got at about 6*s.* 6*d.* to 7*s.* per ton. Common round coals are very bad to sell, both for iron making and steam purposes, and are a drug in the market at about 5*s.* to 5*s.* 6*d.* per ton at the pit, and orders for shipment taken at about 6*s.* 9*d.* to 7*s.* per ton for ordinary qualities of steam coal delivered at the High Level, Liverpool, or the Garston Docks. Engine fuel also meets with an extremely poor demand, and large quantities are being thrown upon the market by the continued strike in the cotton trade, with the result that heavy stocks of slack are accumulating, and in renewing contracts for next year buyers are pressing for lower prices. At the pit mouth burgy averages 4*s.* 3*d.* to 4*s.* 9*d.*; best slack, 3*s.* 6*d.* to 3*s.* 9*d.*, and common sorts about 2*s.* 3*d.* to 2*s.* 6*d.* per ton.

DERBYSHIRE AND YORKSHIRE.

September 17.—Trade matters in Derbyshire are now looking much brighter than they have done for months past; but whether this state of things will last is, of course, another matter. There is certainly more doing in pig-iron at several places with firmer prices, but no more furnaces have been put in blast, nor will there be until it is seen whether the improvement is likely to be of a permanent character. A fair quantity is finding its way into Staffordshire, where business has evidently become more active at the forges. Derbyshire pig for forge purposes is, however, still quoted at from 34*s.* to 36*s.* per ton, and the best qualities for foundry use at from 42*s.* to 44*s.* No change of consequence has taken place as regards finished iron, the demand for which has not materially altered, and taken altogether is anything but brisk. Some of the large foundries have done tolerably well in pipes, but the competition has ruled so keen that the profits are very small indeed, even under the most favourable circumstances—where the makers raise their own coal and ironstone and smelt it. The smaller foundries have had a very quiet time of it, as there has been less doing than usual in small castings for furnishing and building purposes. Makers of mining plant and tools, for which one company at least did a very large business, and has obtained a high reputation, have been more than usually quiet. The forges, too, have had a quiet time of it, but there is steady make of open-hearth steel by the Butterley Company.

The weather and the season has sensibly affected the Coal Trade, and to the advantage of colliery-owners, and those in Derbyshire, owing to the favourable geographical position, have done much better of late with the Metropolis, and in some instances rather higher prices have been obtained. The Clay Cross Company have as usual taken the lead in supplying the London market, and as they sell direct to consumers have of course an advantage over those who have to dispose of their produce to merchants through agents. The Staveley Company have also done a fair amount of business in London, being in the same position there as the Clay Cross Company. A considerable tonnage has also been sent to the Metropolis from Blackwell, Langley Mill, Eckington, and Grassmoor. The principal owner of the latter, Mr. Barnes, M.P., is the candidate for the Chesterfield Division at the next election, and is opposed in the same interest by Mr. Haslam, the miners' agent, who desires a summer's residence in London at the expense of the working miners, but he is not likely to be so far gratified.

In Steam Coal no material change has taken place, and it is by no means easy to dispose of what is raised. There is no outlet for its exportation by sea excepting from a few collieries, but the owners of the latter are likely to take advantage of Boston, which might easily be made an important coal shipping port. It is as advantageously situated for a number of collieries in Derbyshire and Nottinghamshire as is the South Yorkshire mining district to Hull and Grimsby. As it is, a good deal of dependence has to be placed on the railway companies, who take a large tonnage of "hards" for the use of their locomotives. Makers of pig also consume a considerable tonnage of the same description of fuel for smelting; but, as a rule, purchase their coke from other districts. Why the Derbyshire colliery-owners have not given more attention to coke-making is not easy of explanation, seeing that it is admittedly the most profitable branch of the coal trade. Yet they see large quantities imported into Derbyshire from South Yorkshire without making an effort to supply the wants of their own neighbours. Large quantities are also sent from the West Riding into Northamptonshire, yet Derbyshire is a good many miles nearer to Northamptonshire than are the places from which the coke is made and sent.

In Sheffield, trade generally is looking much better than what

it did, and most branches are better employed. No change has taken place in the production of pig-iron so far as the district is concerned, but heavier importations of hematite have taken place owing to the increased demand there is for steel. In cast-steel the requirements for cutlery and tools have increased, and a considerable tonnage is taken for both heavy and light castings. Makers of Bessemer have also done well, there being some rather heavy orders in hand for rails, tyres, axles, and other kinds of railway material. A good amount of this description of work is for exportation to India and Australia, but there is also a fair amount of business doing on account of home lines. In heavy tools the demand is still of a moderate character, but there appears to be rather more doing in some kinds of light machinery. Transactions with America have not been heavy for some time past, but in this direction an improvement has taken place, although it is understood that it is not for the higher class of goods. The cutlery manufacturers nearly all round are better employed than what they were, and there is also more doing in edge tools, files, and saws, as well as in light and fancy steel goods. Makers of mining tools are doing a steady but not an active trade, and there is a fair output of steel wheels, both cast and forged. The mills have been running much as usual, there being no abatement in the briskness which for many months past has prevailed at the Atlas and Cyclops Works in the turning out of steel-faced plates, Government contracts being still in hand, and these will last for a considerable time to come.

The collieries in the South Yorkshire district are now working very fairly, many of them being able to find the hands full time. House coal has gone off better than for some time past for the London market, as well as considerable consignments of gas coal. The business doing in steam coal has kept up very well indeed, and large quantities are being sent to Hull for shipment to the Baltic and other parts of Europe, but prices are firm, without change, the quotations being from 6*s.* to 6*s.* 6*d.* per ton. As yet not so much has gone over the Hull and Barnsley as might be expected, as the shipping arrangements at the new dock are scarcely yet completed. When everything is finished there is no doubt that a very large tonnage of coal will be sent from the district to Hull, and there is no reason why it should not be sent by sea to the Metropolis at a lower rate than is now charged by the old railway companies.

TYNE AND WEAR.

September 17.—There is not much change to notice in the state of the Coal and Coke Trades. There is not sufficient demand for any kind of coal yet to enable producers to increase the price, and this is much required. The demand for best steam coals still keeps the best works about fully employed; the Baltic season, however, is now drawing towards a close, but we have better accounts from Egypt; it appears that affairs in that region are approaching to something like settlement, and it is expected that there will be a good market at Alexandria for steam coals. There is already an increase in Mediterranean orders. The demand for gas coals is increasing rapidly, and the stocks of this coal at the works is small; there is, therefore, a good prospect for this branch of the coal trade in Durham. There is also an increased demand for household coal, and for bunker and smithy coals there is a strong demand. The general demand for coke is still deficient, and considerable stocks of the article are to be found at the works in Durham. Should the iron trade continue to prosper a better demand for coke may be expected.

THE ELECTRIC LIGHT AT COLLIERIES.—There is no doubt that it has been clearly proved by actual experience that this light is admirably adapted for lighting the works at collieries on the surface, and also underground, near the bottom of the shafts at all events, still comparatively little progress has been made in introducing the light; this small progress is, however, we believe, entirely owing to the fact that there has existed a long and severe depression in the coal trade, and this has prevented colliery owners and managers expending money on new plant and erections. This mode of lighting has been adopted lately, as we have noticed, at several important collieries in Durham—at Hetton and other works—and also at the Backworth, Bardon, and Ashington Collieries, in Northumberland. The mining operations at Ashington have been very successful; a large coal field is held there by the owners in the north part of the steam coal field, and the seams have been found there in great perfection; the works have been extended until it is one of the largest coal works in the North. The railway dues from the works to the docks on the Tyne are certainly rather heavy, but a line is about to be constructed from the collieries to Blyth, and when this is completed the bulk of the produce will be shipped there, and thus an important reduction will be effected in the cost of haulage. Last week the electric lights were tested at Ashington; the light is the Maxim-Weston. Mr. Hugh Watts, Chairman of the company, and many other gentlemen were present to witness the trial. Amongst them Mr. T. J. Bunning, secretary of the Mining Institute; Mr. Richardson, agent of the colliery, and others. The aim of the Ashington Company has been to have the surface works, railway sidings, &c., perfectly illuminated. There are three dynamos, two of which are capable of supplying 60 circuits of 20-candle power, and 30 of 50-candle power. At present, however, only about 50 20-candle, and 12 50-candle lamps have been fitted. The third dynamo is to work two arc lamps of 2000-candle power. The dynamos are driven by an 8-horse power engine, by Pigot, of Birmingham, with Pickering's governors. The incandescent lamps are distributed at the pit-head and screens, and when in use give a steady glow, that was much admired. It was evident that but trifling alterations in the position of the lights was necessary to make them a perfect success. The two arc lamps suspended at the extreme ends of the heapstead, and extended to illuminate the sidings, &c., gave every satisfaction. They burned clearly and steadily during the whole of the night, and gave a beautiful illumination of the area around the pit. Nearly the entire population of the village turned out to witness the display, and the trial, as a whole, was considered highly successful. By the use of a large current and small speed there is avoided that pulsating effect produced when too much speed is attempted. In purchasing the patents of the system the company also acquire a right to the improvements that may be made in it for five years, and the exhibition at Ashington included several recent inventions.

The stronger tone of the Pig-Iron Trade has, on the whole, been maintained. There has been less excitement and unsettled feeling within the past few days as compared with the earlier part of the week, when there were such rapid changes in the Scotch markets. Prices are steadier, but scarcely so strong. Shipments are going forward fairly this month, and more iron is being put into Connal's stores. Many people who have been holding back orders for pig and finished iron are now giving orders. Shipments of pig-iron from Middleborough for the week were 18,001 tons, and for the month to date 28,931 tons, as compared with 25,694 tons for the first 10 days of August. There has been more inquiry for some classes of finished iron. The demand for iron in the shipbuilding trade continues very moderate. The steel trade is also dull. There is little change in the price of any kind of iron. Common bars are 4*l.* 15*s.* to 4*l.* 17*s.* 6*d.*; ship-plates, 4*l.* 15*s.*; pig-iron No. 3, with makers, 3*s.* 3*d.*; warrants, 3*s.* 9*d.* Messrs. Connal's warrant stock is 86,025 tons, an increase of 684 tons on

the week. There is great activity in all departments at the Elswick shipyard of Sir William Armstrong and Co. Considerable progress has been made with the framework of the great ironclad Renown. Large consignments of iron and steel are received there daily from Consett and other localities. A large war cruiser for the Austrian Government was launched there on Thursday last, and a gunboat is to be laid down at once in the berth thus vacated. Other vessels are also in course of construction.

Some progress has been made towards a settlement of the dispute at the Ordnance and Engineering Works of the same firm. Mr. John Morley, M.P. for Newcastle, appeared on the scene on Friday. He had an interview with the men's committee, and also with Captain Noble, the Chairman of the directors, and he afterwards introduced a deputation from the men to Captain Noble, when a long conference took place, the result of which was that the parties agreed to submit the matter in dispute to a board of conciliation, to consist of three members. On Saturday the men on strike marched in procession through the main streets of Newcastle, and held a mass meeting in St. George's Hall. A large number of men joined in the procession, and a finer body of mechanics could scarcely be found anywhere. A letter from the directors published in the Newcastle paper on Monday showed that their version of the results of the meeting on Friday differed very materially from the version given by the men's committee, and this appeared to threaten serious complications; however, other meetings between the parties took place on Monday, and negotiations were going on all day. The parties have now agreed so far, the directors adhere to their original offer to refer the question to arbitration, and they also concede that if the board appointed exonerate Messrs. McDonnell and Brown from the charges brought against them they will not be called upon to resign, but arrangements will be made which will prevent them from coming into contact with the men. They have also agreed to abolish the ticket system in piecework, and to abolish piecework as much as possible. It is expected that the men will by voting agree to those conditions to-day (Wednesday), and if so the strike will terminate very shortly. The men have been very generally condemned for refusing to accept arbitration as originally offered by the directors.

The Shipping Trade continues very bad so far as freights are concerned, the freights both foreign and coastwise being very low. The movement for a combination amongst shipowners is still proceeding, and a circular has been issued signed by some of the largest and most influential shipowners in the North of England, convening a meeting to be held at York on Wednesday with a view to form a general combination of shipowners, the objects in view being—"The simplification of the present coal, ore, and other charterers. To take steps to improve the freights, and, if possible, to fix a minimum freight."

The result of the voting in the Elswick dispute shows that 3553 votes for a conciliatory Board of Arbitration, and 38 against—a majority of upwards of 3000, and it is expected that full work will be resumed shortly.

FOREIGN MINING AND METALLURGY.

The situation has become rather worse in France, if anything. Merchants' iron has fallen to 5*l.* 6*s.* per ton. A Gilchrist-Thomas steel syndicate has been formed by the makers of eastern district of France, the Mont St. Martin Steelworks, and the Jœuf Steelworks. The general condition of the German iron trade has only slightly changed. Notwithstanding efforts to reduce production the markets have still shown weakness. Prices have remained nominally unaltered, but concessions are the order of the day, and casting-pig has even officially declined to 2*l.* 16*s.* per ton. Representatives of the rolling-mills of Upper Silesia have just held a general meeting at Kattnitz in order to secure a reduction of production. Previous efforts in this direction have resulted in failure, but it is thought that this time they will prove successful. Tenders have been invited by the Spanish Government for the construction of an ironclad of the first class and two ironclads of the third class. The John Cockerill Company has now orders on hand to the aggregate value of 520,000*l.* The exports of steel rails from Belgium in the first seven months of this year were 27,315 tons, as compared with 31,476 tons in the corresponding period of 1884. Iron rails were exported from Belgium in the first seven months of this year to the extent of 4522 tons, as compared with 12,552 tons in the corresponding period of 1884.

Quotations have remained nearly stationary in the Belgian Iron Trade during the last few days; but the tendency has been, if anything, slightly downwards. Large orders continue to make default; consumers only lay in supplies from day to day, and in giving out orders they require at once low prices and immediate delivery. The prices recently given have, however, been maintained, except for casting-pig, which has been slightly lower in consequence of the competition of pig from the Grand Duchy of Luxembourg. What is really wanted is the discovery of new outlets for the increasingly large quantities of iron and steel produced in Belgium. Some attention is now being given to the development of a system of metallic telegraph posts, such posts being, it is contended, calculated to insure regularity in the telegraphic service, as they are, of course, not likely to rot, while they are less liable to be blown down. Switzerland has now 350 miles of telegraph posts of this description. In Germany they are to be found between Berlin and Potsdam, between Weissenfels and Gera, and on the line from Herberth to Aix-la-Chapelle and Cologne. Another means of working up more iron would, of course, be an extended adoption of metallic sleepers on railways, with which, by the way, the Eastern France Railway Company is now making experiments. The John Cockerill Company has just completed a dispatch boat for the Belgian Government. The same company has obtained an order from the same Government for two mail steamers to ply between Ostend and Dover.

The Belgian Coal Trade remains in much the same state. The demand for coal for industrial and metallurgical purposes has continued weak, but the house coal trade has presented rather a good tone. The imports of coal into Belgium in the first seven months of this year were 687,683 tons, as compared with 674,000 tons in the corresponding period of 1884. The 687,683 tons representing the imports for the first seven months of this year were made up as follows:—Germany, 218,102 tons; England, 151,154 tons; France, 56,242 tons; the Low Countries, 252,170 tons; and other countries, 15 tons. The imports of coke into Belgium in the first seven months of this year were 14,214 tons, as compared with 21,688 tons in the corresponding period of 1884. The exports of coal from Belgium in the first seven months of this year were 2,324,100 tons, as compared with 253,461 tons in the corresponding period of 1884. The exports to France figured in these totals for 2,142,720 tons and 2,383,726 tons respectively. Coke was imported in the first seven months of this year to the extent of 493,482 tons, as compared with 500,264 tons in the corresponding period of 1884. The approach of winter and the formation of a syndicate for securing a reduction in the production has given a certain firmness to quotations for coal in Germany. Gas coal and coke-making coal have been in good demand. The deliveries of German coal to Hamburg in August were 42,180 tons, as compared with 48,470 tons in August, 1884. Official statistics show that Austria produced 7,048,000 tons of coal in 1883.

Meetings of Public Companies.

WEST PHENIX.

An adjourned meeting of shareholders was held on Tuesday, at Webb's Hotel, Liskeard, for the purpose of deciding on the steps to be taken in connection with the future working of the concern.

Mr. W. NETTLE presided.

Captains Rich and Kelly presented a report in which they stated that during the past month operations had been confined to the opening of the new south lode. There was water in the trial shaft, which prevented them from sinking deeper without the aid of pumping power, and this could be easily applied by a line of rods from one of the engines on the mine. The south lode was about 2 ft. wide, and would yield on an average $\frac{1}{2}$ cwt. of tin to the ton of stone. This was a favourable feature considering the shallow depth at which the lode had been seen. It had a less underlie than the old lode, and appeared to be converging towards it, going west. The lodes would probably unite at a great depth in the eastern part of the sett, but owing to differences in the bearings they were likely to form a junction at a much shallower depth in a westerly direction. Looking at the bearing and dip of the new lode, and at the fact of its yielding tin shallow and the very promising character of the old lode the agents think it advisable to urge on the 52 and the 70 ends west, and at the same time put out a cross-cut to intersect the south lode. On the other hand, the new lode can be proved by a line of rods, as already stated, by sinking on its course from surface, independently of the working at Norris's shaft.

This report having been adopted, it was resolved, on the motion of Mr. W. WEST, seconded by Mr. W. POLKINHORNE, that the mine should be further developed, this course being fully warranted by the recent discoveries and other circumstances, and more especially as it appeared that holders of only about 1100 shares were inclined to sell the mine as a going concern, the Stannaries Act requiring at least three-fourths to effect that purpose.

It was further determined, on the motion of Mr. RULE and Mr. WEST, that the shareholders should be written to asking them what proportion of the relinquished and forfeited shares they undertake to purchase at 2s. 6d. per share, and that the meeting should be adjourned until the 29th inst. to receive their replies.

BURNHOPE LEAD MINING COMPANY (LIMITED).

The annual general meeting of shareholders was held at the mine, Edmondbyers, last week,

Rev. W. FEATHERSTONHAUGH in the chair.

Mr. S. LEYBOURNE (the secretary) read the notice convening the meeting.

The CHAIRMAN, in presenting the directors' first annual report, begged to congratulate the shareholders on the prospects of the mine, and the probability of an early dividend. Notwithstanding the continued depression in trade generally, and the price of lead in particular, and the necessity of providing adequate machinery for crushing and dressing the ore, the opening out of the mine has been continued without heavy calls on the resources of the shareholders; and unless any unexpected occasion should arise, rendering a call unavoidable, we do not anticipate any such necessity in the future.

Though not without the variations always occurring in lead mining, the production of the mine has been gradually increasing, and may now be considered very satisfactory.

A considerable extent of ground has been opened out, principally in the direction of our northern boundary, and a very large extent remains unexplored.

The top level, 16 fms. from surface, has been driven north through about 25 fms. of very good grey ground, and the forehead is now 2 ft. 6 in. wide, of pure galena lead ore, valued at fully 10 tons per fathom, a splendid lode, and the ore is rapidly improving in the level sole, showing that we are opening out a lot of rich ground.

The low level, 32 fms. in depth, has been pushed forward north through about 60 fms. of more or less productive ground, during the time the new dressing plant was being erected, and as soon as this was completed the level was stopped, and the men put to stop down the ground laid open. No. 1 stope was started at the south end of the grey ground, and while the level was driven at this point the vein was yielding small quantities of lead ore, but after the stope was risen up a few feet into the sill we opened out a grand mine, worth in places from 6 to 8 tons per fathom.

Another partnership of men were engaged, and started No. 2 stope in low level, where we had a strong masterly vein well mixed with ore; and in order to carry good air through the mine a rise was started from the top of this stope and continued up to the top level, which has now been completed, and has ventilated the mine from the engine-shaft to the air-shaft. In putting up this rise through the shale beds, lead ore was met with nearly the whole way, and a nice mine opened out in a sill lying between the Pattison and Craig sills. Sinking the engine-shaft, and opening out the low level for some 80 fms., has cost us not less than 2000*l.*, and as this has drained the whole of this ground between the top and low levels, which is 16 fms. thick, it will thus be seen that we have a vast amount of good ground laid open and ready for stoping away at a cheap rate, and it may here be observed that this north and south vein, coming from the north before reaching Burnhope separates into two parts, and the eastern portion is the part operated upon here, the western part as yet untouched. A short cross-cut will prove the western part at a small cost. About 50 fms. from the engine-shaft an east and west vein was met with, which may prove to be a very valuable discovery. In intersecting the strong north and south veins it has evidently been weakened, but at present though only a few fathoms has been driven on it to the east, it has opened out to a rib of 5 in. width, and carries a remarkable cheek, and in an assay of the ore it is found to contain the extraordinary quantity of 44 ozs. of silver to the ton of lead. As soon as this vein gets clear of the influence of the north and south veins it will no doubt prove a source of very great wealth to the company. Our appliances for crushing and dressing the ore being very defective we have procured from Messrs. Davison and Company, of Hexham, a complete set of machinery for this purpose, of the newest and most approved construction. This has been erected and covered in, and has been in work for some time, and works splendidly, going through a very large quantity of house in a day, and dressing the ore in a first-class manner. In order to set the water-wheel free for this purpose entirely we have temporarily hired a portable engine for winding purposes, which will also work the force pump hereafter mentioned. The pumping-engine continues to work well, has full command of the water at six strokes per minute, whereas previous to the backwater being out it required from 10 to 12 strokes. The long dry season and the scarcity of water has stopped us a good deal in the washing department, but an excellent force pump has been got, and is now on the ground, and the water we pump from the mine will be forced up to the reservoir when not being used for washing, which will help us greatly when wanted in a dry season. We are also busy making an additional reservoir for storage of water, which when completed will give us water for a full day's dressing.

Mr. WILLIAM LOGAN moved, and Mr. JOHN LEYBOURNE seconded, that the report and balance-sheet be accepted.

The motion was then put and carried unanimously.

On the motion of Mr. WILLIAM LOGAN, seconded by RICHARD MURRAY, the retiring directors—Rev. W. Featherstonhaugh and Mr. S. Leybourne—were re-elected.

Messrs. John Adamson and George Solkeld were re-appointed auditors.

The CHAIRMAN explained to the meeting that the adjoining royalty had been secured, and that negotiations were going on as to the purchase of the very superior plant of the Harehops Hill Mining Company, now in liquidation, which was cordially approved.

On the motion of Mr. WILLIAM DONKIN, seconded by Mr. GEORGE SOLKELD, a cordial vote of thanks was passed to the Chairman, and the meeting closed.

THE MINING JOURNAL.

KILLIFRETH.

A meeting of shareholders in Killifreth was held at Redrath on Tuesday.—Mr. TREGONING (the purser) presided.

Labour costs for 16 weeks were 1777*l.*; merchants' bills, 60*l.*; rates and bankers' charges, 60*l.*. The total debts were 865*l.*. Tin sold, 54 tons 9 cwts., realised 2862*l.*. Tin whits, 167*l.*. Deducting lords' dues, and adding carriage and discount, a profit was shown of 41*l.* (Applause.) This reduced the balance against the mine to 49*l.*

The report of the agents—Capt. John Michell and Capt. Joseph Tambyn—stated:—Engine-shaft: Having intersected the cross-course in the 90 fathom level west we are now driving south on the same lode to cut the tin lode the other side. In this drivage we have just met with the copper lode, and judging from the distance of the two lodges in the upper levels we have from 8 or 10 ft. more to drive to meet with the tin lode. And looking at the congenial nature of the cross-course in the present end we have every reason to expect to meet with a productive lode. The 70 fathom level east is suspended for the present. The men are rising close to the end to communicate to the 50. This will give good ventilation, and lay open a large section of stoping ground. The rise is up 15 fms. The lode for the distance is worth from 5*l.* to 7*l.* per fm.—Hawke's Shaft: Having completed all the necessary work, such as cutting plat, tramroad, taking up water, &c., at the 70, we are now sinking the shaft towards the 90. The lode for the first 2 fms. sinking was split up with patches of killas, but in the last 3 ft. sinking the killas appears to be almost gone, and the lode is getting larger and more defined, with a better appearance of again becoming productive. The lode in the 70 end west is 1*1/2* ft. wide, producing a little tin, but nothing to value. We have two stopes in back of this level—one east of shaft, worth 15*l.* per fm., and one west of shaft, worth 10*l.* per fm. We have also two stopes east of shaft, in the 60—one in the bottom, worth 25*l.* per fm., and one in the back worth 15*l.* per fathom. We have not as yet cut any lode in the 50, driving south of Hawke's, on the cross-course. This has a very congenial appearance of causing any lode that may be intersected to be productive. This level is extended about 60 fms., and we have about 40 fms. more to meet with the lode we started in the cross-cut for.—Tregoning's Shaft: The rise in the back of the 50 east is in about 22 fms. on the south part of the lode; this is at present unproductive. The 30, being driven on the north part, our men are now driving south in this level to communicate with the back of the rise; when effected it will give us good ventilation to prosecute this eastern ground. We have again resumed to drive the adit south of Tregoning's shaft, as we do not think we have cut the south part of the tin lode yet. In our tribute department we have nine pitches working on an average of 11*l.* 6*d.* in 1*l.* Since our last meeting we have changed the well works of our engine, and it is now doing very good duty. This will effect a saving of at least 10 tons of coal per month, and the cost has been charged to-day.

The CHAIRMAN observed that the tin credited had been sold, all labour costs had been paid, the merchants' bills charged to the end of August, and the merchants' bills charged to the end of April had been paid. The accounts that day included 100*l.* for new work in connection with the engine.

Mr. JAMES WICKETT moved that the accounts be adopted, and, in doing so, expressed the hope that at the next account the shareholders would receive a dividend. (Hear, hear.)—Mr. T. MICHELL seconded, and the motion was adopted.

A discussion ensued on the question of certain adventurers being backward in the calls demanded of them, and it was held that shares should be forfeited if people owed two and did not quickly respond.

Mr. CLINTON proposed a vote of thanks to the purser and the agents. They were to be congratulated on what they had shown that day. (Hear, hear.)

Mr. WICKETT had pleasure in seconding. He had been mixed up in accounts all his lifetime, and he could honestly say the accounts there were presented in a first-class manner. (Hear, hear.) It was a great pleasure for them to attend and find a 40*l.* profit, and not a 500*l.* loss. (Hear, hear.)—The motion was adopted, and

The CHAIRMAN, in reply, said he could assure them they would do what they believed to be the best for the shareholders. Without expressing himself egotistically, he must say that he thought the shareholders had been very well served by themselves, and they should continue in this pleasant way.

Captain MICHELL defied contradiction in saying they had carried out what they had promised. Of course a good mine would make good "coppers." (Hear, hear, and laughter.) That he knew. But he thought if an agent could carry on a poor mine to the satisfaction of the shareholders, he was even a better man than the agent of a good mine.

Mr. CLINTON enquired how much longer the agents would be before intersecting the lode at the 50?

Captain MICHELL said they were driving at the rate of 9 fms. a month. They had set it at 20 fms. at a time, and the first 40 fms. were driven for 50*l.* per fathom. They were doing their utmost to reach the lode.

Mr. TAYLOR: What has been the difference this time in the price of tin?—The CHAIRMAN: From 4*l.* to 5*l.* per ton.

Captain MICHELL: If we had anything like the price we had two years ago we should be making dividends.

LEADHILLS SILVER-LEAD MINING AND SMELTING COMPANY.

The seventeenth ordinary general meeting of shareholders was held at the offices of the company, Finsbury Circus, on Thursday.

Mr. PETER WATSON (the managing director) occupied the chair.

Mr. FELIX F. WILSON (the secretary) read the notice convening the meeting. The reports of the directors and of Mr. Arthur Waters, the consulting engineer, and the statement of accounts were taken as read.

The CHAIRMAN: Gentlemen, as you will see by the notice convening this meeting, the business of the meeting will be to receive the directors' report and statement of accounts, and the consulting engineer's report; the election of a director and an auditor, and the passing of such resolutions connected therewith as may be determined. You will see that, notwithstanding the great depression in the price of lead during the last 12 months, we have been enabled, as I somewhat foreshadowed at the last meeting—which we held at the end of April last—to pay you the same dividend as we had previously paid—1*s.* 6*d.* per share. But I said at the time, as a matter of course, all would depend on the price of lead. So far as the producing capabilities of the mine were concerned that was right enough. Well, we have made certain reductions in the cost as you will see by the directors' report, and at the close of the financial year—on the 30th June—taking our lead at 11*l.* 10*s.* per ton, which is the very price quoted to-day, we have been enabled to show you a profit of 405*l.* 3*s.* 11*d.* which I think, under all circumstances, must be exceedingly satisfactory to the shareholders. (Hear, hear.) That profit is arrived at after writing off 396*l.* 4*s.*, which is 10 per cent., as depreciation on the cost of the new machinery and cottages. We have, in addition, to this gone to considerable expense at the smelting mills, in making further improvements there, and also at our dressing establishment. We have also done a great deal at Wilson's shaft. We have now, I think, nearly completed the large expenditure which has been going on there for sometime; and taking the whole of the development of the mines into consideration, I think that we have done fairly well in the drivages and sinkings. During the last four or five months we have been sinking Jeffreys' shaft, which has gone down at a very fair speed, and we are enabled now, as Mr. Waters will tell you, to drive the bottom level—the 115—and open out into a large section of ore ground. Of course, it is very disheartening to raise and sell such large quantities of ore as we have been doing from the commencement of these mines at such low prices. Had we obtained the price for our lead all along that we did a short time after we started, we should have been able to pay back nearly the whole of the capital of this company (120,000*l.*) I merely mention this to show that it is not because the mines have not been productive

that we have not made larger profits, but that it is really the price of our produce which has militated against this company, otherwise we should ere this have paid back nearly 6*l.* a share in dividends. However, we must take the bad with the good, and we can only hope that we shall have better prices for our produce hereafter. Although since the report was issued the price of lead has gone down somewhat, I may say that yesterday the price was a little firmer, and I am given to understand that it is again a little better to-day. At any rate, it has not gone below the price at which we have estimated our stock. Furthermore, I mention that we have sold a very considerable quantity of our lead at 11*l.* 15*s.*, and 12*l.* and upwards, so that we stand in a very good position to-day. I remember that Mr. Waters stated in one of his reports that this was a very big undertaking. So it is; when we consider that we have about 25 square miles of property, and that there are something like 30 known lodges in this sett. Since we commenced we have spent an enormous amount in dressing-floors, in new machinery, and so on, and all this has, I may say, been done out of revenue. We have a new engine at Wilson's, and another new engine at Reid's, and those who visited the mine when we first started would see the enormous amount of work we have carried out if they visited it now. We have laid a long tramway from Wilson's to Reid's, so as to save carriage, and this has produced very considerable economies. We are now almost finishing new stables which will accommodate 10 horses. We have nine horses now; we shall want another, and then we shall be able to do all our own cartage instead of hiring, and I hope in future that we shall save a considerable amount in that way, while we shall be more independent with regard to our team from time to time. There is a very important element in connection with this mine which should not be overlooked; we have an enormous reservoir which covers about 16 acres of ground; it is about 45 ft. deep, and it contains usually about 70,000,000 gallons of water. It will hold over 80,000,000 gallons, and this, as a matter of course, is a very important assistance to the development of such an extensive property as this. It is unnecessary for me to go through the various figures which every shareholder has had, and I think the reports fully show to you that everyone—not only the directors, but the consulting engineer, the manager, Mr. Newbiggen, Mr. Aitchison, and everyone at the mine, are doing their utmost for the benefit of this company. (Cheers.) I visited the property a fortnight or three weeks ago, and I was very pleased to see everything conducted in the way that it is. I have a letter from Mr. Newbiggen to-day, in which he says that the mine is improving in many points, especially in our bottom level, and in the winze sinking below the 100 fm. level. The Chairman then moved the reception and adoption of the reports and statements of accounts.

Mr. ROBERT WILSON (the auditor) seconded the motion, which was carried unanimously without any discussion.

The CHAIRMAN then announced that at the board meeting which preceded that general meeting, the directors had declared a dividend of 3*s.* 6*d.* per share, carrying forward 55*l.* 3*s.* 11*d.*, payable on the 26th inst., and he trusted that that declaration would be considered exceedingly satisfactory by the shareholders. (Cheers.) It compared with 1*s.* 6*d.* per share at the last meeting, and it would have been nearer 1*l.* if they had had for their produce the old prices. He trusted that the injustice of the existing state of things with regard to free importations would be thoroughly enquired into by the Royal Commission on Trade. (Hear, hear.)

The CHAIRMAN, in reply to a SHAREHOLDER, said the company had not yet received the expected concessions from Lord Hopetoun but no effort would be wanting to obtain them. (Hear, hear.)

Mr. WILSON proposed the re-election of Mr. Samuel York, the retiring director.—Mr. GREEN seconded the proposition, which was carried.

Mr. YORK, in returning thanks, said the property was a splendid one, while its management reflected the highest credit on Mr. Waters, Mr. Newbiggen, and the other officers of the company. Every economy was practised, and one and all were alive to the interests of the company.

On the motion of Mr. GLEN, seconded by Mr. BALDERSON, Mr. E. Ashmead, F.C.A., the auditor, was re-elected.

Mr. WATERS said the latest information from the mine showed that there had been no falling off since his report was issued. In driving Gripp's adit, south of Wilson's shaft, the lode had shown indications of improvement since he was there. The prospects at the 115 south, towards Wilson's, had also improved, with every sign of further improvement. Everything at the mine was in first-rate order, and all that was required was a fair price for their produce.

The CHAIRMAN expressed the hope that more of the shareholders would visit the mine. It could easily be reached from Carlisle, Edinburgh, or Glasgow, and was within five or seven of Abingdon and Elvaston, where conveyances to the mine could readily be obtained. They have a post and telegraph office, an excellent hotel, schools for children, one of the oldest village libraries in the kingdom, two churches, and indeed everything that a tourist could require. The property was situated in beautiful country, and would well repay a visit.

Mr. WATERS added that they had a bank and a policeman—laughter—a band of music, and a volunteer corps.

Mr. BALDERSON gave a short address on the blessings of temperance.

The proceedings closed with a vote of thanks to the Chairman, directors, and officers of the company.

WEST POLBREEN MINING COMPANY.

An ordinary general meeting of shareholders was held at the offices of the company, Walbrook, on Thursday.

Mr. JOHN B. REYNOLDS occupied the chair.

Mr. W. JOHN REYNOLDS, the secretary, read the notice calling the meeting. The statement of accounts, from June 1 to September 17, showed a credit balance at the bankers of 217*l.* 2*s.* 9*d.* It was stated that there are no liabilities due and unpaid, and there were no calls in arrear.

The CHAIRMAN read the report of the agent, as follows:—September 16.—I beg to hand you the following report. Since the meeting held on June 1 last we have driven only a short distance on the course of the lode. As the lode is about 12 fms. south of the engine-shaft, and underlying north, we have been driving north in order to communicate with the shaft; we have about 4 fms. more to drive to get under the shaft, and about 4 fms. to rise against the shaft to hole. When this communication is effected it will let down the water and ventilate the mine. I hope to have this work completed by the time we

highest expectations formed as to the value of that lode are likely to be realised. That such a lode in such a district should be met with would be an important matter under any circumstances, but that it should be found here is a matter which should cause satisfaction and confidence in the mind of every shareholder in this company. (Cheers.) Seeing the extent of ground we have on it, the satisfactory arrangements made at the outset with regard to our "limits," and all other features which distinguish this mine we have cause to-day for congratulation and thankfulness. Well, gentlemen, in accordance with the resolution passed at the last meeting we have lost no time in the purchase of an engine, and in this business we have been most fortunate. Indeed, we have bought an engine and boiler just equal to new, and which not so very long ago must have cost upwards of 600*l.*, for 23*s.* It is true, gentlemen, that this is an illustration of the quiet state of the mining industry in Cornwall, but it is equally true that we have been considerable gainers by the depression in the county, which, we hope, judging from the improved state of the tin market, is now passing away. This is no new experience. It reminds me of the time when the machinery was bought for West Kitty and other mines, and soon after the purchase it became worth some 50 per cent. more than we gave for it. As to our finances, gentlemen, we ought to notice with much pleasure that again we have no arrears of call to face, and this points to the admirable manner in which our secretary discharges his duties. The advantages of such prompt payment are so obvious that we need not dwell upon them, those respectable and responsible individuals who have so often to pay for "lame ducks" know too well, and that by experience, bitter enough. (Cheers.) Gentlemen, it appears to me that the system under which we conduct our business involves the essence of Limited Liability, with absolutely none of its disadvantages. Any partner can leave us at a moment's notice with the certainty that he will not have to pay a single farthing on deciding to do so. And this, gentlemen, is taking the very worst view of the situation. (Hear, hear.) In the existing stagnation of the mining market the highest bid we have had for the 170 forfeited shares for sale is 9*s.* per share, and this bid has been declined. Seeing that it is not unlikely that these shares may ere long be 4*l.* or 5*l.* each we could not without your express sanction accept such a low price. (Hear, hear.) Captain Vivian has referred to West Kitty. Gentlemen permit me to say that West Kitty is doing and will do only a very faint illustration of what other mines in this district will do, and that at a time not very far distant. (Loud cheers.) In conclusion, the Chairman moved the adoption of the report and accounts.

Mr. JAMES seconded the motion, and said he understood from the report that Captain Vivian had 15 fms. further to sink to intersect the lode. He asked Captain Vivian whether this was so?—Captain VIVIAN said they would have to sink the shaft about 15 fms.

Mr. JAMES: Has the lode been seen in the adit level, and what are the prospects of the lode at the adit level. With regard to the accounts, it is exceedingly satisfactory to find that we have no arrears of call. I am a shareholder in several mines, and in very few—I believe not one—do we hold meetings at which we do not see an item for arrears of call. Here we have a credit balance of 217*s.* 2*d.*, and all the calls are paid, and this is a unique position. (Hear, hear.) I do not know any other mine in the same position out of this office. I only wish that all mining in Cornwall during the past six years had been conducted under similar auspices, and with people endowed with the same spirit as Mr. Reynolds, who is really carrying out the Cost book System in its purity. If this had been so Cornish mining would not now be under such a cloud as at present. If we look at the Cornish balance-sheets we see serious amounts of unpaid calls and unpaid wages; therefore I think we may congratulate ourselves upon being in such a good position, and too many thanks cannot be rendered to our worthy manager and all interested. (Hear, hear.)

The CHAIRMAN: I hope if any shareholder has any question to ask he will be good enough to ask it. The more information elicited at these meetings the better.

Mr. JAMES asked Capt. Vivian whether there was any cross-course to the west which they were likely to hit upon during the next six months?—Capt. VIVIAN: I do not know that we shall hit upon it, but there is the champion cross-course to the west about 50 to 60 fathoms.

Mr. BUDGE said he believed this champion lode traversed the Polberro and Trevaunance sets.—Capt. VIVIAN: Yes.

Mr. BUDGE: Is it the West Kitty lode you expect to cut in West Polbreen?—Capt. VIVIAN: Yes.

Mr. BUDGE asked whether any benefit would be derived from the junction of the lodes?—Capt. VIVIAN said he did not go much for the junction of lodes in the St. Agnes district.

A SHAREHOLDER: You pin your faith more upon the flat lode than the perpendicular?—Capt. VIVIAN: Upon both lodes. St. Agnes is a district of itself, and differs from all other mining in Cornwall.

Mr. JAMES said he was sure the shareholders would like to hear some further remarks from Capt. Vivian.

Captain VIVIAN said he had stated in his report that they had opened 20 to 30 fms. on the course of the lode. This lode was a flat lode, and he considered it to be the West Kitty lode. There had been 40,000*l.* made in Old Polbreen when worked by Messrs. Taylors. All these lodes were standing to the north of the present engine-shaft. He calculated to continue the cross-cut to intersect these lodes. The perpendicular lodes in the St. Agnes district had given immense profits near surface, but when they got 70, 80, or 90 fms. from surface they seemed to split up and be lost altogether. In West Kitty they followed the lode down to the 72 below the adit down to the flat lode, and as it went down it split into smaller branches, and it was seen no more. So in the old Polbreen Mine, as they went down the lode split up, and seemed to be lost altogether. The flat lodes, of Wheal Kitty more particularly, and West Kitty, seemed to make in depth. The Wheal Kitty and West Kitty lode they could not make anything of at surface, nor near the adit level; but as they went down in depth they got a rich lode. This lode, which they had opened on in West Polbreen, for 20 to 30 fathoms was a regular and kindly lode, and was a good mineral bearing lode. He considered that was the West Kitty flat lode; but as he had stated before, these flat lodes had not done any good near surface. The shaft was 12 fms. to the north of where the lode was seen. The shaft was now sinking to the adit level. There were about 4 fms. more to sink, and they would be ready with the shaft by the time the engine was ready. He hoped the chances were that the lode would begin to show signs of improvement; then they would sink away on the course of the lode. He might say further that this engine-shaft was parallel with one of the best courses of tin which had been found in the St. Agnes district, and the champion cross-course of the district was within some 50 fms., and if they did not get a good thing somewhere about the engine-shaft he did not know where to go and look for it. The chances were, therefore, in favour of the mine. He need not say anything about West Kitty, for that mine had spoken for itself, and the mystery to him was that West Kitty shares were selling at the low price they were today. There were other mines which were making calls in which the price of the shares stood much better. He questioned whether there was any mine in Cornwall which was doing so well as West Kitty, or would continue to do so well for some time to come. (Cheers.) When he heard some of the remarks which he had heard about West Kitty he simply laughed. But people seemed to have got frightened because one gentleman had sold his shares, of which he had a very large number. That gentleman had made his fortune out of West Kitty. Here was a mine making half profit, with the shares knocked down to the low price at which they now stood. But it would have some good effect, because persons who knew the mine were purchasing the shares, and who could blame them? (Cheers.) Perhaps by next meeting the West Kitty people would begin to wake up. He was heartily sorry to see people parting with their interest in West Kitty at so great a sacrifice. If dividends were going back it would be different, but he might say at once that they would continue dividends in West Kitty even with the present price of tin. He considered Trevaunance the next prize in the St. Agnes district. Copper ore was at a low

price, but in Trevaunance they had opened up in rich copper ore, and Mr. Warington Smyth, the Duchy agent, who was there last Thursday, stated that he had never seen such a thing for years, and he could hardly go away from the mine. Of course, St. Agnes was not a copper district, and there had never been such a thing in St. Agnes before, and they might be sure there was a great course of tin below the copper. But before they came to that they might have hundreds of thousands of tons of copper.

A SHAREHOLDER asked at what depth it would go into Polberro sett?

Capt. VIVIAN said he could not tell. It underlaid there in the north-eastern part of Trevaunance. It will get into Polberro shaft at something like 60 fms. below adit level, but the eastern part of the sett was not parallel with Trevaunance. Everyone who knew the district believed that Polberro was one of the future mines of St. Agnes, seeing that the Penhalls Mine, when it ceased working, had driven several of their levels close up to the Polberro boundary. In Penhalls the adventurers made 100,000*l.* of profit. There was no doubt that in some districts the junction of lodes made a mine, but in others a junction did not do any good.

The CHAIRMAN: Well, gentlemen, I have allowed very considerable latitude to speakers. We are met for the consideration of West Polbreen business, and I think if I had not been an indulgent Chairman, I should have pulled up Capt. Vivian and Mr. James. But I know perfectly that there is a great anxiety to know everything outside; but there is not a greater anxiety outside to know everything than there is inside to tell everything that can be told concerning this district and concerning the mines. (Cheers.) I am very glad, therefore, that Capt. Vivian has spoken as he has done concerning West Kitty and the other mines, and I hope it will act as a warning to those who give an attentive ear to those who do not speak the truth, and who turn from those who really do wish to give true information. (Hear, hear.) I do not say that any gentleman intentionally misrepresents—certainly I would not say that for a moment. But I think we should all acquaint ourselves with facts before we attempt to give any information to the public, that is all. (Cheers.)

The resolution for the adoption of the agent's report and the accounts was then put and carried.

The CHAIRMAN said the next question was that of ways and means. They had no liabilities due and unpaid, and they had 217*s.* 2*d.* at the bankers. Between now and the next meeting they would require about 600*l.* more, and, therefore, a call of 2*s.* per share would be ample for their requirements. He was sorry to see so small an attendance; but, on the other hand, it was a significant circumstance, as it showed the confidence of the shareholders in the existing state of things. (Hear, hear.) As one of the largest shareholders himself he would move to provide for the working of the mine for the next three months, a call of 2*s.* per share be made, payable to the bankers of the company, Messrs. Williams, Williams, and Grylls, Truro, on or before October 1st.

A SHAREHOLDER seconded the motion, which was put and carried.

Mr. WAHLBECK proposed a cordial vote of thanks to the committee of audit and finance for their services, and that they be re-elected. The shareholders were particularly indebted to them and the able secretary for the prompt way in which the calls had been collected. The resolution having been seconded, was put and carried.

On the motion of Mr. S. JAMES, seconded by a SHAREHOLDER, a hearty vote of thanks was passed to Mr. Reynolds and Capt. Vivian.

The CHAIRMAN: We are very much obliged to you, gentlemen. I am sorry to say that rumours have also reached me about the price of West Kitty shares; in order to dispose of any doubt, as there are brokers present, I may say that I will give 7*s.* per share for any number of West Kittys. (Cheers.)

The proceedings then terminated.

ROMAN GRAVELS MINING COMPANY.

A general meeting of shareholders was held at the offices of the company, Finsbury Circus, on Thursday.

Mr. PETER WATSON in the chair.

Mr. FELIX F. WILSON (the secretary) read the notice convening the meeting. The report of the manager was taken as read.

The CHAIRMAN said: This is not an annual general meeting, gentlemen, and, therefore, it is not the time to produce our annual statement of accounts. We do that generally about April or May. First of all I have to regret the absence of our Chairman, who, I am sorry to say, has been during the last few months very ill indeed at home, and owing to the death of a near relative of his he is also unable to be present to-day. Therefore, my colleagues who are present—Mr. Wilson and Mr. Olding—have desired that I should take the chair on his behalf, which I do with a very great deal of pleasure. The report of the manager of the mines is before you, and I think fully explains really what the position of the property is, and what we have done since the commencement. As he states here, we have sold 34,640 tons of lead ore, and 1355 tons of blonde, which has realised altogether 400,174*l.* 16*s.* 9*d.*, and out of which the shareholders have received 117,900*l.* in the shape of dividends. In addition to that we may state that out of revenue, or rather out of the sales of lead and blonde during that period, I dare say something like 30,000*l.* has been spent in developing the property, in putting up machinery, and so forth; and, therefore, when you come to consider what the shareholders have received, and the magnificent state that the property is in at the present time, I think you will agree that on the whole it has not been a very bad investment for those who put their money into Roman Gravels. (Hear, hear.) I think further that considering the low prices which we have had for our lead—and the fall has been going on since 1873—that we have done very well, for at the present time lead ore is only half the price that it was selling for in that year—1873. Considering all these things, I think the results reflect some credit on the management of Mr. Waters and those who have had the guidance of the development of the property. (Cheers.) I visited the mine last month, I examined the whole of the books, and found that everything was charged up regularly and in order; and seeing what has been done there I came away with a great amount of satisfaction, especially at finding that the 110 south, our pioneer level, was then worth 5 or 6 tons of ore to the fathom. It had been worth 1 and 2 tons, then 5 and 6, and then back to 2 or 3 tons; but it is now, as Mr. Waters will tell you, worth 3*s.* to 4 tons to the fathom. We are opening out this level quickly, and we must be laying open a considerable body of ore ground at that particular point. During the last 11 months we have given the shareholders 5*s.* in dividends, and at our last directors' meeting we have carried a further sum of 500*l.* out of profit and loss account and reserve fund, making the reserve fund up to 2000*l.* I hope that will also meet with the approval of the shareholders. (Hear, hear.) Of course there was the unfortunate loss alluded to at the last meeting in May, owing to the failure of the Runcorn Smelting Company. That item stands in the books; but I am afraid, as we stated at the time, that we shall get very little out of it, if anything. I think that is the report that I am authorised, on behalf of my colleagues the directors, to give to you to-day, and we can only hope that we may have a better price for our produce in the future than we have had in the past. Some enquiry has been made with regard to a reduction of the royalty—a matter which has been discussed at previous meetings. We communicated with Mr. Jasper More, who, as you will remember, referred us to his solicitors. We have since made no progress whatever in that respect. You will remember also that 12 months ago I stated that Members of Parliament who were representing the mining districts of this country, especially in Cornwall, had, since the death of Mr. Davey, M.P. for West Cornwall some years ago, taken very little, if any, interest in the welfare of the mining districts, or in the interests of the miners in any shape or form—with regard to the royalty question, the mode of granting leases, and so forth. I also mentioned at that time that not even Mr. Chamberlain, who was a shareholder with us in this undertaking, had touched on that very important question of royalties; but in his speech at Warrington I am very pleased indeed to see that Mr. Chamberlain referred to the question of mining royalties among other matters which would have to be considered, and the report

shows that his reference was received with cheers. There is no doubt that something radical will have to be done in connection with mining in this country. I may tell you that this week there has been a very large meeting in Cornwall in connection with that question, and I think a committee of some two dozen of the leading men of Cornwall has been formed to take up the question with respect to these royalties and leases. What will be the result it is, of course, impossible to say; but it is really time that something should be done with reference to the great depression of trade, especially in connection with the industries of the kingdom. Copper, I remember many years ago, was quoted at 180*l.*; it is now selling at about 41*l.* 10*s.* per ton. Our pig-lead that used to sell at 22*l.*, 23*l.*, 24*l.*, and up to 26*l.* a ton, is now quoted at 11*l.* 10*s.* I think, therefore, that it is quite time something should be done. (Hear, hear.) I took the opportunity some time ago of writing a very long and important letter to Mr. Gladstone—I think it was in November, 1878—in which I touched on these important matters; but nothing has been done. However, I really think we are in a fair way of starting something with reference to the relief of the mining industries of this country. (Hear, hear.)

Mr. GATTY: You mentioned the Runcorn Smelting Company's debt. Is that kept as an asset or is it written off?

The CHAIRMAN: It is practically written off. Our assets to day are 1026*l.* 17*s.* 6*d.*, and we have at the bankers 1905*l.*, or a total of 2932*l.* 14*s.* 6*d.*, and our liabilities are about 700*l.* Therefore we have over 2000*l.* to the good.

Mr. GATTY, in the course of a long address, said he was a Free Trader as much as he possibly could be, and he thoroughly believed in freedom of contracts. He was, therefore, opposed to any suggestion of trying to force upon lords a legal reduction of royalties. Mining companies, like other undertakings and persons, must take their chance of the ups and downs of trade; and though he was a large loser by the depression in metals he did not think personal feelings or personal losses should influence great public questions. It was to him a great question whether the general policy of mining companies had not for years been radically bad. The policy had been to get all that could be got out of the mines, and then to divide the profits in the shape of dividends; but seeing that every mine must come to an end sooner or later, he thought the first object should be to make provision for the return of the capital expended in the first instance. The refunding of the capital was a matter of the first importance. He thought the best course to be pursued would be to build up a reserve.

Mr. WATERS observed that Mr. Gatty had lately been to the mine, and had inspected it underground. Perhaps he would kindly state his impression of the property.

Mr. GATTY said that what he saw of the property was extremely satisfactory. The different ends were opening out well, especially in the lower levels. They were extending in length of ore ground, and the probability seemed to be that as they got deeper they would have better results. The report made by Mr. Waters certainly bore out what he saw of the mine a couple of months ago. (Cheers.)

Mr. WATERS said the mine was looking now quite as well as when his report was written. The only thing they had to hope for was a better price for lead. If lead had kept up to anything like a medium price—say, 12*l.* or 13*l.* a ton—they would have paid back the capital twice over since the mine was started. But as it was, with a capital of 90,000*l.*, they had paid in dividends 117,900*l.* (Hear, hear.) The mine was he believed a lasting one, and his request to the shareholders had always been that they should go and see the property for themselves.

The CHAIRMAN, in reply to the remarks of Mr. GATTY, said he had been surprised to hear that gentleman's opinion with regard to the royalty question. It was in the interests of all concerned that the existing state of the mining industry should be most carefully enquired into. The depression was not a mere temporary one, it had been going on since 1873, and were they to sit silent while their trade was going away from them? The question was one that could not be buried, and so far as he was concerned he intended to do what he could towards ventilating it. Few had suffered more by the depression than he had. No doubt it was very proper thing to have a good reserve fund, but how many mining companies in this country could compare with Roman Gravels in that respect? The company had paid back the capital subscribed besides yielding a good interest besides spending out of revenue 30,000*l.* for plant, which is the case of a railway company paying a much smaller average dividend, would have been paid for out of capital. He did not think the views of Mr. Gatty would find general acceptance among shareholders. (Hear, hear.)

Mr. GATTY disclaimed finding fault with the management of this company, and said he had made his remarks in a general way.

After a short general conversation, the meeting closed with a vote of thanks to the Chairman.

STEEL COMPANY OF SCOTLAND.

The annual general meeting of the Steel Company of Scotland (Limited) was held in the Accountants' Hall, Glasgow, on Wednesday.—Sir CHARLES TENNANT, M.P. (Chairman of the company) presiding.

The CHAIRMAN, in moving the adoption of the report and payment of a dividend of 4 per cent., said that it was matter of regret that the dividend showed a considerable diminution on that of recent years. But, taking all the circumstances of the past year into account, the directors did not regard it as either discouraging or unsatisfactory. When he last had the honour of addressing them he ventured to express the hope that the gloom which had so long hung over the iron and steel industries was nearing some mitigation. He was sorry to say that his hopes had not been realised, and from that date to the close of the financial year the gloom had deepened, so that during the period under review the depression had been almost of an unparalleled character. He thought, therefore, that they had ground for congratulation in being able to pay a dividend of 4 per cent., and at the same time write off 15,000*l.* for depreciation, and carry forward 1436*l.* 6*s.* to next year's account. (Applause.) Since the formation of the company there had been written off altogether for depreciation 130,000*l.* It was satisfactory to be able to state that, notwithstanding the scarcity of work, they had begun the present year with a large number of orders and with considerable quantities of raw materials bought at the lowest rates. Some of these orders were for delivery over a lengthened period, and to meet this extended delivery they must make provision by the necessary purchases of raw material. There were some classes of material, such as pig-iron, which could not be purchased for delivery over the periods to which the contracts for finished steel extended, and the directors deemed the present a favourable time for covering all their sales and a little more. It was these purchases, going a little beyond their covering necessities, which had subjected them to the unwarranted criticism of entering upon speculative courses. He had no doubt that the action of the directors would be approved of, more especially when it was considered that the hematite pig-iron represented by the 42,000*l.* of loan shown in the balance-sheet barely exceeded the consumption for two months. Regarding the modification or extensions which had been in progress during the year, more especially at Newton Works, he was pleased to say that they were very nearly completed, and any further expenditure on capital account would not be great. When these were completed he thought they might say they had a plant second to none in the steel trade. The application of steel for constructive works of all kinds continued to grow. Doubtless the power of production was also increasing, and competition was in consequence very keen, but with steel at the very low price it had now reached, and with its acknowledged superiority over iron for almost all the purposes to which either material might be applied, it could not fail to command itself even more in the future than it had done in the past. The works had been well employed during the past year. They had their fair share of orders in the market in the past, and he saw no reason to doubt that they would continue to merit a continuance of the same public approval and support. With the fine plant they now possessed, enabling them to effect all

economy possible, they might, he trusted, look forward with confidence to the future. In concluding, he publicly acknowledged the ability and energy which the manager and secretary and the other employees of the company had displayed in connection with the affairs of that most important undertaking.

Mr. JOHN WILSON seconded, and the motion was unanimously agreed to.

THE CHEAP STEEL QUESTION.

With untiring energy all our chief iron and steel centres are pursuing the solution of how best to produce cheap steel. Wonderful economies have, thanks to the inventive genius of home and foreign steel makers and patentees, been effected within even the past decade. But further economies must go on. As will be seen from a report in another column, the parent iron and steel centre of the kingdom—Staffordshire—is becoming increasingly alive to the urgency of this question. The President of the Staffordshire Iron and Steel Works Managers' Institute—Mr. R. SMITH CASSON—is perfectly correct in remarking that the modern iron and steel trades are the most extraordinary industries in the world, for no sooner have the industries laid themselves out for manufacturing upon one or more processes than something like a revolution is demanded in consequence of some new discovery. The point which is just now uppermost in the Staffordshire trade is whether the basic process, as at present carried out in the Bessemer converter, is likely to be most successful, or whether it will not prove a greater success and insure greater economies if worked in the open-hearth furnace. An extensive works upon the Bessemer-basic method exists in South Staffordshire, and the question is, therefore, a nice one. The President of the Institute to which we have adverted concurs in the opinion expressed at the recent Glasgow meeting of the Iron and Steel Institute by Mr. RILEY—that the Thomas-Gilchrist process must look for its more perfect fulfilment as allied to open-hearth practice. Mr. B. F. MCALLEN, who was present on Saturday at the meeting of the Staffordshire Institute, concurs, and in other directions the feeling is also growing. If by the basic open-hearth system it is possible to produce ingots at the remarkably low figure of 65s. per ton, as Mr. McALLEN states he is informed the Brymbo Works in South Wales are doing, an important advance has been established. We question, however, whether there is not some mistake as to this figure. Concerning the quality of the new steel there can be but little difference of opinion. Samples which have been sent from Brymbo to be rolled into sheets and other merchant sections at Staffordshire works have behaved admirably, and consumers are well pleased with the finished product. It is anticipated that before very long experiments with the basic process in the open-hearth furnace will be carried out in Staffordshire. The Patent Shaft and Axle Tree Company, who were the first of the ironmasters in that centre to experiment with the basic system pure and simple, have now lined an open-hearth furnace with the basic material with a view to a trial. Thus it will be seen that iron and steel producers as well as inventors continue earnestly to seek for means of cheap steel production, and competition necessitates that every district, if it is to hold its own, must be fully alive to the latest developments or suggestions concerning steel manufacture.

THE INVENTORIES EXHIBITION.

Huntington and Koch's Amalgamator.—This unpretentious looking apparatus not being in motion, and but little on the outside to indicate the value of its internal arrangements as an amalgamator, is upen investigation found to be an important factor in the future profitable working of gold mines. This exhibit is by the Pyrites Smelting Company (Limited), 38, Threadneedle-street, E.C., owners of the Huntington and Koch patents for extracting precious metals from their ores. These patents are for an amalgamator and for a process in which molten lead is used as the amalgamating medium instead of mercury. For treating gold ores, pyritic or otherwise, mercury is used in the amalgamation; but for silver or silver-gold ores a bath of molten lead is used in a specially arranged form of the amalgamator, which forms a special feature of the patent.

The Gold Amalgamator as on view has been in practical use now for some time past on some of the gold mines at Sandhurst, Victoria. The patentees did wisely in proceeding direct to the principal Australian gold fields, and there put in practice their inventions at the mines requiring the uses of such valuable aids to the saving of extra quantity of gold from matrix operated on. The apparatus consists of a cast-iron cylinder about 26 in. by 15 in., in which is placed a quantity of mercury, say, from 1200 to 1400 lbs. A tube or pipe leads to the bottom of the cylinder, having at the bottom two nozzles like the blades of a screw, bevelled on the outside, and with a longitudinal slit on inside. On the top of the tube is a hopper to which is conducted the pulverised quartz and water running from the stamper-boxes. The tube is then made to revolve at the rate of 250 to 280 revolutions per minute, and in their passage through the mercury the revolving arms create a vacuum, which draws the material through the slits in the nozzles into the mercury which is kept in motion by their action. Thus the water and pulverised material which has been led into the hopper or funnel on the top of the tube by its specific gravity, and the motion of the nozzles on the tube is sucked into the mercury and rises upward through it, the gold being amalgamated and the debris, sludge, and water escaping through pipes into an outer rim of the cylinder or pan, and then conveyed to an ordinary baffle or settler, where the small proportion of mercury which may have escaped is recovered.

At one of the old-established mines of Sandhurst, Koch's Pioneer Company (by the way no connection of the patentee), experiments have been carried out on a very practical scale in the presence of a number of the leading authorities and representatives of the Press, and from the published accounts of the experiments by the *Bendigo Advertiser*, *Melbourne Argus*, *Age*, and other papers, there is a unanimous opinion of the value of this invention as a gold amalgamator. Before the introduction of this amalgamator, although many attempts had been made, no one had devised a practically successful machine for passing large quantities of pulp straight from the stamp or otherwise through a column of quicksilver, which may be 1 ft. or several feet in height. The device employed in this machine is extremely simple and remarkably effective. This machine can be put straight on to the batteries in place of the plates, ripples, &c. In this position the amalgamator possesses an additional advantage of great practical importance when dealing with pyrites or other material carrying fine gold—that much less water can be used than with the ordinary appliances.

The following satisfactory testimony of the value of this invention and the results of practical experiments made at Sandhurst, the leading gold field of Australia, will speak for itself:

1.—Kentish Mine: 50 loads of hard quartz rock, a low grade ore, containing 20 per cent. of pyrites, were stamped in the ordinary way, and passed straight into the patent amalgamator. From this crushing, 11 ozs. 14 dwt. of melted gold were obtained. At the same time, for comparison, 50 loads of this stone were stamped and passed over copper plates, ripples, &c., the method ordinarily in use. The yield by this treatment was 9 ozs. 18 dwt., showing a difference of 1 oz. 16 dwt., or 18·2 per cent. in favour of the Huntington and Koch amalgamators.

2.—In another trial, with a low grade ore (Rose of Denmark) 30 loads (40 tons) passed through the amalgamator yielded 11 ozs. 6 dwt. of gold, whilst the 30 loads (40 tons) treated by the ordinary method gave 10 ozs. 3 dwt., or a difference of 11·33 per cent. in favour of the amalgamator.

3.—Twenty loads of quartz tailings, after having been fully treated by Chinamen, yielded 22·8 grs. of gold per ton.

4.—This was a trial against the chlorine process. The chlorine process extracted 5 ozs., and the amalgamator 5½ ozs., equal quantities being operated upon in each case.

5.—Bethanga pyrites, containing 50 per cent. of sulphur and arsenic, and 10 per cent. of copper, yielded up in the amalgamator, without roasting, 60 per cent. of the assay value of the gold contained. This is the first time that a process has been found to work this ore and make it pay.

6.—The Maldon Mine tailings, on being recrushed and treated in the amalgamator, gave up 6½ dwt. of gold to the ton, and under similar conditions.

7.—The Inglewood tailings gave up 7½ dwt. per ton.

A Huntington and Koch Amalgamator, 15 in. in diameter, and about 2 ft. high, has been taking all the pulp from eight heads of stamp direct. The consumption of power for driving was 1½-horse power for a machine 12 in. in diameter. These amalgamators are entirely automatic and continuous in their action, one man being sufficient to look after a number of them.

The loss of mercury in the tailings, as last determined, after retorting, was only 4 lbs. on a continuous run of one week.

The following indicates the money value of some of the above-stated results:

1.—KENTISH MINE.

	Dwts.
By ordinary processes from 37 tons, at 20 dwt.	1110
" Huntington and Koch process from 37 tons, at 3½ dwts.	1295

In favour of H. and K. process.....	18·5
Value of gold extracted by ordinary process ... £20 16 3	

Huntington and Koch process	24 5 7
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Gain per diem	£ 3 9 4
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And this on a year of 300 days=1040l. per annum.

This result was obtained by the following annual expenditure:

5 per cent. interest on prime cost of machine

(say) 200l. £10 0 0

Royalty per annum..... 30 0 0

£40 0 0

showing a clear profit of 1000l. per annum on an investment of 200l.

=500 per cent. on the original expenditure.

2.—ROSE OF DENMARK.

	Ozs. Dwts.
By the ordinary process 40 tons yielded.....	10 3
" Huntington and Koch process 40 tons yielded	11 6

In favour of H. and K. process.....	1 3
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This is equivalent to a gain of 13·8 grs. per ton, and assuming a daily output of 37 tons=11,100 tons per annum, at 13·8 grs., the annual gain will be 319 ozs. 2·5 dwts., an amount equivalent at 75s. per oz. to 1196l. 14s. 4d.; or on the original investment of 200l. a return of nearly 600 per cent. per annum.

4.—TRIAL AGAINST CHLORINE PROCESS.

Comparative Costs of Processes.

37 tons per 24 hours, at 30s. per ton (chlorine process)	£55 10 0
37 tons per 24 hours, at 5s. per ton (H. and K. process)	9 5 0

Saving per diem on cost of treatment	£46 5 0
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Comparative values of gold extracted.	
37 tons at 5 ozs.=185 ozs. at 75s. (chlorine process)	£693 15 0
37 tons at 5½ ozs.=194½ ozs. at 75s. (H. and K. process)	728 8 9

Saving per diem on gold	£34 13 9
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Saving on treatment per 24 hours.....	£46 5 0
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Saving on gold	34 13 9
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Total saving	£80 18 9
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Saving on treatment per annum	£13,875 0 0
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Saving on gold	10,406 5 0
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And total annual saving.....	£24,281 5 0
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The total results speak for themselves. From the trial made it was estimated that the cost of treating the old tailings, including recrushing, carting to amalgamator, &c., would be from 5s. to 8s. per ton. In the last official report from Australia it is stated that the machine is now at work at several of the largest mines.

Mr. John Agnew, who has watched the process for more than a year, gives the following report. Mr. Agnew was the first manager who allowed the amalgamator to be put direct on to the batteries, it previously having had to work under the disadvantage of being placed at the end of their ordinary arrangements:—"Having carefully watched the progress of trials made in connection with the Huntington and Koch Patent Amalgamator, I have no hesitation in stating that it supplies a want which has been long felt in the mining districts. Previous to its introduction there were no appliances, that I am aware of, for saving free or float gold. The difficulty has, however, been completely overcome by the Patent Amalgamator, which passes the ore through the body of mercury, thereby securing the best possible contact with the mercury. I am also of opinion that the time is not far distant when our present appliances (ripples, tables, &c.) will have to give place to this Patent Amalgamator. In the treatment of tailings, I am strongly in favour of pulverising instead of crushing through batteries. Pulverising I believe to be the cheapest, and will give a better result.—JOHN AGNEW, General Manager, Pioneer Works, Long Gully, Sandhurst."

"I have much pleasure in testifying my belief that the Huntington and Koch Patent Amalgamator is the best ever seen in California or the colonies; in fact, I believe it to be indispensable for saving fine or flour gold.—ELISHA TIPPETT, Mining Manager, Lady Barkly county, Eaglehawk."

LEAD PROCESS.

Up to the present trials of this process have not been made on so large a scale as with the amalgamator using mercury, but the results obtained so far warrant the belief that it will prove exceedingly useful and valuable in the treatment of silver ores or silver-gold ores, the amount extracted from the more refractory ores being far in excess of that obtained by the methods ordinarily employed. This is notably the case with ores containing large quantities of zinc. Roasted mattes have also been successfully treated; as much as 96 per cent. having been extracted from regulus containing 50 ozs. of silver per ton. One of these amalgamators has recently been erected at one of the largest lead works in the world to feed rich silver ore beneath the surface of a bath of lead, the ore being subsequently agglomerated and treated with lead ores in the blast-furnaces for the extraction of the small amount of silver still remaining in.

Huntington and Koch Amalgamator.—Extracted from the annual report of C. W. Langtree, acting-secretary for mines and water supply, to the Hon. J. F. Leiven, M.P., Minister of Mines for Victoria, Australia. Page 63 Victorian Blue-book, 1885:—"On upwards of 100 tons of ore put through, in competition with ordinary appliances at Sandhurst, the results were, according to the nature of the ore, from 11·33 to 18·2 per cent. more gold than from batteries with tables, ripples, blankets, &c. All the workings were publicly conducted, and the machine has been unanimously pronounced the best amalgamator ever seen in the Colonies, and the only amalgamator capable of treating tailings efficiently and economically. The cost of working does not exceed that of present appliances, and with a plant specially erected for its use the cost will be materially lessened. The machine can be connected with batteries, doing away with all tables, ripples, blankets, &

Mining Correspondence.

BRITISH MINES.

BEDFORD UNITED.—H. Trese, September 15: The drivage in the 133 east by the side of the lode to secure progress, the lode not being taken down there is no change to report. At the 20, McCallan's shaft, the drivage is in the lode which is composed of capel, mundic, and a little ore. The ground is good for driving and fair progress is being made. In the 75 west the lode is composed of strong mundic, capel, and small quantities of black oxide of iron of good quality. In the 62 west the lode has a kindly appearance being mixed with some good quality ore, and good progress is being made in driving the end. The several stopes both east and west at the 62 are without any particular change to notice. The pitches throughout the mine continue to yield ore and mundic in paying quantities.

BURNHOPE.—S. Reynoldson, September 16: No. 1 stope in low level is now worked up to the plate-bed, and a rise is being put up here to the sills above. No. 2 stope is worth at present 51 per fathom, and set at 39s. per fathom. We have started another partnership of men in No. 3 stope, which is opening out remarkably well, and worth 30s. per fathom, and set at 29s. per fathom. The top level stope is yielding fine ore, and worth 42s. per fathom, and set at 31s. 10s. per fathom, the men to raise the house to bank. We have started to drive again on the east and west vein, which is carrying a fine rib of silver lead ore, and looks very promising. We have finished the new reservoir, and placed the men underground again to raise ore. Have sent off to market 77 bings of ore for the month. Machinery all working well.

CWMYSTWYTH.—Joseph B. Rowse, September 16: We are making good progress in clearing the old workings in the 15 on the Comet lode at Pugh's, and shall in a few days' time have a good length of the lode uncovered. The lode in the stope over Gill's upper level is 2 ft. wide, yielding 2 tons of blonde per fathom, but is poor for lead. The lode in the stope over the middle level on the Comet lode is poor, consequently I have put the men to clear down their ore-stuff with the intention of stopping the stope on Saturday next. The men will then be removed to Gill's lower level on the Comet lode. Our tribute pitches on the whole are not quite so productive. We have laid about one half of the incline tramway to the Big Rock. The drum, brake, and framework for same are ready, and we shall commence to put them in place at once. We hope to get it to work in about eight or 10 days from this time. I am pleased to say that we have had some heavy rain of late, which has filled our ponds and given us a sufficient supply from the river. Our machinery is in good working order. We sampled our usual quantity (100 tons) of blende yesterday for sale on the 29th inst.

D'ERESBY.—William Sandoe, September 16: The lode in the stopes, south of new shaft, continues to look well, and is worth fully 1½ ton of lead ore per fathom. We purpose to resume the sinking of the new shaft in a few days, but are desirous, first, to work forth the present stope south to the extent of the ore-ground. When we started to sink below No. 6, the shot of ore extended no further south than the end of the shaft, but now 10 or 11 yards deeper. The ore extends south of the shaft 6 or 8 yards.—**Hanging Side:** Here the lode going down below No. 6 continues to look well—in fact, it is a fine course of ore, worth fully 2½ tons of ore to the fathom, going down right under the shale, and seems very likely to improve in depth. Those two points being, as they are, directly in the bottom of the mine are most encouraging, and likely to show fine results at the next level. We have sampled 15 tons of lead, for sale on Wednesday next.

D'ERESBY.—Telegram: Captain Nance: Winze in hanging worth fully 5 tons per fathom; improving down.

DEVON GREAT CONSOLS.—Isaac Richards, September 17: Wheal Maria: In the eastern shaft sinking below the 12 fm. level on the Capel Tor lode the ground continues of a congenial character for the production of mineral, and is favourable for exploration.—Wheal Emma, Railway Shaft, New South Lode: In the 220 fm. level west on the south part of the lode, the lode has not yet been taken down; it is intended, however, to commence taking it down in the course of two or three days.—Watson's: In the 124 fm. level east and west of the engine-shaft the drivages for the present are also being carried by the side of the lode for more speedy progress. The lode here also will be taken down in the course of next week. In the 44 fm. level, east of the western shaft, the lode is 3 ft. wide, and is yielding some saving work of copper and mundic ores. There is no material alteration at any of the other points of operation throughout the mines.

DUCHY PERU.—Capt. R. and J. Nancarrow, September 15: Since reporting on the 1st inst. we do not see any great change worthy of remark in the 20 fm. level, west of engine-shaft, on course of lode. The end is of a very promising character, and producing stones of blonde, but not enough to value. Here we find we have about 5 fms. yet to drive to get under the perpendicular of the first ore-ground seen in the level above, where we have had mineral for 20 fms. in length. Here we hope as this level is extended to open up a long and profitable piece of ground. In the 70 fm. level west we are crossing through the lode, where it has improved, and now producing more blonde than we have seen for some time past. Our object to cut through the lode at this point is to ascertain its size and value, it being of such a massive width we may probably be working in the poorest part. The tribute pitches at this level have greatly improved since our last, especially the one nearest the end. The others at the shallower levels are without change. We sampled three parcels of ore last week of good quality; in fact, the sampler said they were the best he had seen here, and we hope they will realise good prices. We are now engaged dressing others of equal quality. All surface work is being carried on in the usual way. The pumping, winding, and other machinery continue to work with every satisfaction.

EAST BLUE HILLS.—S. Bennetts, W. K. Mitchell, September 16: The north, part of the lode in the shaft, sinking below the 20 fathom level, is worth 1½ per fathom. In the 25 east end it continues to open out well, and is worth 25s. per fathom. And in the west end it is worth 12s. per fathom. During the past month those two ends have been further extended in the aggregate 7 fathoms through ground averaging 12s. per fathom. A winze has been sunk through from the 19 fathom level to the 26 fathom level, some 3 or 9 fathoms east of the shaft it has opened out in readiness for stopping when required, a capital piece of tin ground. Another winze has just been commenced for a similar purpose, some 13 fathoms west of the shaft. In the 10 fm. level east end, north cross-cut, no further lode has been met with as yet, and in the adit east end the soft ground referred to in our last report turns out to be the soft part of the lode which separates from the main part some 20 fathoms behind the end, again come in contact with it, from which we hope to see a change for the better here shortly. During the past month the water has been so scarce, even for grate water, that we have only been enabled to pass through the stamps 135 tons of stuff (about 3 tons of tin), not all of which has been raised from the drivages by some 50 tons.

GAWTON.—Moses Bawden, September 16: Setting Report: The 105 fathom level to drive east, by four men, at 24s. per fathom; the part of the lode carried will yield 6 tons of mundic and some good stones of copper ore. The 95 fathom level to drive east, by two men, at 27s. per fathom; the part of the lode carried is 8 ft. wide, and will yield 18 tons of rich arsenical mundic per fathom. This level has been for a considerable time opening up some profitable stoping ground. Stope in back of the 117 east, by four men, at 51. 15s. per fathom. Stope in back of the 105 east, by two men, at 41. 10s. per fathom. Stope in the back of the 95 fm. level east, by four men, at 41. 10s. per fathom. Stope in the back of the 95 fm. level east, by four men, at 41. 10s. per fathom. Stope in the back of the 70 fm. level west, by four men, at 41. 15s. per fathom. Stope in the back of the 70 fm. level east, by four men, at 41. 15s. per fathom. Our stope will yield each on an average about 9 tons of arsenical mundic per fathom. I am pleased to say that we continue to make fair monthly profits from our returns of arsenic. The lode in the 95 fm. level east is of such a character that I should not be surprised at any time to have an addition to the mass of mundic; it is yielding a rich discovery of copper ore.

GREEN HURTH.—J. Polgrave, September 16: The bottom end north is worth 7 tons per fathom. The winze sinking below the 44 is suspended on account of water; vein worth 10 tons per fathom. The winze men are stopping the back of bottom level; vein worth at point of operation 5 tons per fathom. The 44 end is producing a little ore. No. 1 stope in back of the 44 is worth 1½ ton per fm. No. 2 stope in back of ditto is worth 5 tons per fathom. No. 3 stope in back of ditto is worth 2 tons per fathom. The 30 end north of the 44 is worth 1½ ton per fm. The vein in the winze sinking below the 32 is worth 2 tons per fathom. No. 1 stope in back of ditto is worth 1 ton per fathom. No. 2 stope in back of ditto is worth 1 ton per fathom. The adit level north of new footway is worth 1½ ton per fathom. We have hoisted to the Bodder Mea workings in the adit level east about 3 ft. above the back of the level. More will be seen of this shortly. No water. Dressing going on well.

GREAT WEST SHEPHERDS.—R. and J. Nancarrow, September 15: The new engine shaft is sunk 30 fathoms from surface. We have also erected a horse whin here, and are now engaged fixing a shaft tackle by the latter of which we intend drawing the stuff which we shall raise in sinking the next 10 fathoms to a plait we shall cut at the 30, and this stuff will be drawn to surface at intervals by the horse whin. In this way a saving will be effected of several pounds monthly. The cross cut north of Brown's shaft at the 30 is driven 21 fathoms in a beautiful stratum of ground for producing lead, where we daily expect to meet with the lode. The cross cut south is also very encouraging; it is now driven almost 15 fms., and the end is becoming wetter, which indicates that we are nearing the lode. The lode in the 16, east of Brown's, is 3½ ft. wide, and composed of mundic, flookan, and some fine lead, presenting altogether a very promising appearance. All the surface work is going on in the regular course, and the engine and pit work are working satisfactorily.

GREAT LAXEY.—F. Reddick, September 16: There is a small improvement in the bottom level driving north of Welsh shaft, and the lode is worth some 6s. per fathom at present. The 247 level north is holed to the cross-cut at the bottom of Dumbell's shaft, and the level is now being driven northward past that point. The portion of lode carried is of no value at present. In the 225 end south the lode is stronger than for a long time past, and at present producing a little blonde ore. I hope that this small improvement may have some connection with the run of copper-ground, and soon further improve.

A new winze in 247 north is worth 12s. per fathom, and a new point has been stope in 200 south 16s. per fathom.—Dumbell's: As above stated the 247 level from the deep mine has been holed to the bottom of this shaft, and the water being thus relieved driving north at the bottom has been commenced. The 245 end continues to be worth about 7s. per fathom. In the 235 end the lode has much improved, its present value being 35s. per fathom. Since last report the lode in the 215 end has continued to get smaller and lesser in value, and is now worth but 6s. per fathom. The 200 end is somewhat disturbed and the lode not so good as it was, being at present 18s. per fathom. A little ore has come in in the 37 end north to the value of 12s. per fathom at present. There is no other change to notice.

GREAT HOLWAY.—W. T. Harris, September 17: Roskell's Shaft: In the 95 north fair progress is being made; an increase of carbonate of lime is very apparent, and water issues freely from the forebreast.—Level Engine Shaft: In the 50 east the lode yields a mixture of blonde and spar, and occasional stones of lead. Tribune: No. 1 pitch, in back of this level, is worth 8 cwt.s. of lead and 1½ ton of blonde per fathom. No. 2 pitch is producing 6 cwt.s. of lead and 1 ton of blonde per fathom. In the 60 No. 1 pitch in back west is yielding 10 cwt.s. of

lead and 1½ ton of blonde per fathom. No. 2 pitch is producing 2 tons lead and 1½ ton blonde per fathom, and very promising. No. 3 pitch in back east is worth 8 cwt.s. of lead and 15 cwt.s. of blonde per fathom. No. 4 pitch east is yielding 10 cwt.s. of lead and 1½ ton of blonde per fathom. No. 5 pitch in back west is producing 1½ ton of lead and 1½ ton of blonde per fathom. No. 6 pitch in back east is worth 15 cwt.s. of lead, and 15 cwt.s. of blonde per fathom. No. 8 pitch is producing 10 cwt.s. of lead, and 1 ton of blonde per fathom. No. 9 pitch is worth 8 cwt.s. of lead, and 1 ton of blonde per fathom. Pitch east is worth 6 cwt.s. of lead, and 15 cwt.s. of blonde per fathom.—Brammock Shaft: The 60 level east, No. 1 pitch, in back is producing 1½ ton of lead and 1½ ton of blonde per fathom. No. 2 pitch is yielding 5 cwt.s. of lead, and 1½ ton of blonde per fathom.—Surface: Have had to repair one of the boilers at Roskell's; all machinery working well, and in sound condition.—Dressing: Shall send 21 tons lead to-morrow, and sample 50 tons blonde Monday next.

GOODEVERE.—R. Knott, September 16: The deep adit end east has improved for progress, which is of very great importance for forcing on this point of operation, and when the higher shaft lode is reached there is every evidence of your quickly opening up a good mine. The fixing of air-pipes and all other work in connection with the ventilating machinery is being urged on as fast as possible, and when in working order I anticipate forcing on this important point at a good rate. The end is reset at 41. 10s. 2 fms. stent.

HEALEYFIELD.—John Trelease, September 11: There is but little change in the stopes. No. 1 stope is worth 12 cwt.s. of lead per fathom. No. 3 is worth 15 cwt.s. per fathom. No. 10 cwt.s. per fathom. In the north foremost rise, the vein in the last 2 fms. has been much broken and disturbed, and has taken a westerly bend. We are now cutting off in the west side of the rise, where the vein is wide, and producing strings of ore, but not enough to value. We hope to find the continuation of the vein in the bottom of the Smithy level on the west check of the rise, where we expect to find it more rounded and defined. We shall get forward the 40 tons of ore by about next Thursday. We have started to pump out the water from the Whitewell shaft with the old engine, to get down and take dimensions for new working barrel. Erection of new machinery progressing satisfactorily.

HOLYWELL DISTRICT LEAD.—R. Rowlands, September 17: In the 110 west we shall not commence in earnest to strip down the ore from the new discovery until my next report; a short trial, however, made on its course proved very satisfactory. In driving north on the new lode we have turned out some very good stuff, and the lode is widening and contains lead on each side; in the centre there is a large tumbler of stone, which is wearing out, and I expect on its complete disappearance we shall find a greater deposit. We are leaving lead in the roof and on the bottom of this driving, and before long we shall sink a sump, and thus lay open a large section of stoping ground. In the 80 east we have commenced No. 3 cross cut, and already met with small stones of lead, and shall, no doubt, intersect the lode rich. In No. 2 cross cut we have risen up on the hanging side of the vein, and got into rich ground, producing lead identical with the stuff raised by the tributaries at No. 1. We have not yet worked upon the course of ore on the heading side of the vein, which looks well. No. 1 pitch is worth fully 1 ton of lead per fathom. I have set the ore to raise at 41. 15s. per fathom. We are busy on the dressing-floors making both round and small ore.

LEADHILLS.—Arthur Waters, September 17: Since the date of my general report issued to the shareholders we have started to drive the 11 south of Jeffreys' engine-shaft, and commenced a new winze in the 100, which will go down in the ore ground called No. 1 section beyond Jeffreys'. We shall catch the dip of the 110 south of shaft 10 ft. wide, and produce more ore than for some months past. No. 1 pitch is worth 10s. per fathom.

MELLANEAR COPPER.—John Gilbert, September 15: There is no change since last week's report in the 70 cross cut north of the main lode, east of Gundry's engine shaft. The ground is still mineralised throughout, and favourable for driving. The lode in the 110 west of shaft is 4 ft. wide, yielding 1½ ton of copper ore per fathom, and some stones of tin, and looking very promising.

In the 120 west of shaft the lode is 2 ft. wide, yielding some saving work for copper and tin; but is rather disordered with cross branches of spar. In the 120 east of shaft the lode is 3 ft. wide, yielding ¼ ton of copper ore per fathom, and mundic and blonde is saving quantities. The ground is a little harder for driving. The south part of the lode driving in the 130 east of shaft is 4½ ft. wide, yielding 2 tons of copper ore per fathom, and some very good work for tin. We have cut into the north part of the lode about 3 ft., which is producing good stones of copper ore. The lode in the 130 west of shaft is 4 ft. wide, yielding occasional stones of copper ore, and is also worth about 6s. per fm. for tin. The lode in the back of this level is yielding 3 tons of ore per fathom. The lode in the 130 east of shaft is 3 ft. wide, and worth 10s. per fathom for tin. The lode in the 130 west of shaft is 4 ft. wide, yielding 1 ton of copper ore per fathom. There is no particular change in any other part of the mine. Our sampling for this month is computed 40s. tons of copper ore.

MID-DEVON COPPER.—James Nell, September 12: Surface: Have had heavy rainfall this week, which has given a copious supply of surface water.—Shaft: Water in fork to 90, and expect in three or four days to have it drained to bottom of shaft. Have been making good some necessary repairs to this shaft which has occupied two days.—Cross Shaft: The stope in back of the 115 advances. The 100, south of Wilson's, has improved to 30 cwt.s. per fathom. Grips' adit, south of said shaft, also shows an improved appearance this last day or two. Other points as valued in my previous report.

MID-DEVON COPPER.—John Gilbert, September 15: There is no change since last week's report in the 70 cross cut north of the main lode, east of Gundry's engine shaft. The ground is still mineralised throughout, and favourable for driving. The lode in the 110 west of shaft is 4 ft. wide, yielding 1½ ton of copper ore per fathom, and some stones of tin, and looking very promising.

In the 120 west of shaft the lode is 2 ft. wide, yielding ¼ ton of copper ore per fathom, and mundic and blonde is saving quantities. The ground is a little harder for driving. The south part of the lode driving in the 130 east of shaft is 4½ ft. wide, yielding 2 tons of copper ore per fathom, and some very good work for tin. We have cut into the north part of the lode about 3 ft., which is producing good stones of copper ore. The lode in the 130 west of shaft is 4 ft. wide, yielding occasional stones of copper ore, and is also worth about 6s. per fm. for tin. The lode in the back of this level is yielding 3 tons of ore per fathom. The lode in the 130 east of shaft is 3 ft. wide, and worth 10s. per fathom for tin. The lode in the 130 west of shaft is 4 ft. wide, yielding 1 ton of copper ore per fathom. There is no particular change in any other part of the mine. Our sampling for this month is computed 40s. tons of copper ore.

MID-DEVON COPPER.—W. H. Borlase, Sept. 17: We have now a good supply of water for our wheels, and I hope to be in fork again and winding from the 45 to the new shaft-to-morrow. Dressing will be resumed on Monday next.

TINDENE.—J. Pope, September 17: In the eastern shaft good progress has been made up to the present time, but the air is not very good to-day, so the sinking is not progressing as rapidly as it was; the cross cut south is making fair progress. In the western part of the mine we have opened a shaft from surface, and communicated it with the adit in order to improve the ventilation of this part of the mine—a fall of stuff from the back of the level caused some delay, but it having been cleared and securely timbered, the level driving east on Tindene main No. 1 lode is resumed, and is producing the 10s. per fathom. No change in any other part of the mine.

WEST CARADON.—N. Richards, September 15: Gilpin's lode in the 33 fm. level is 2 ft. wide, and is producing more ore than for some months past. No. 1 lode is producing saving work of a rich quality, being nearly all grey copper ore.

WHEAL BASSET.—W. C. Trevean, September 14: Setting Report: The 110 fathom level cross cut is being driven south of Lyle's engine shaft, to intersect the flat lode, by nine men, at 12s. per fathom, which we hope to reach before our next setting. A rise in the 130 fathom level, west of shaft, is worth 10s. per fathom, and rising by nine men with a machine, at 11s. per fathom. The 170 fathom level is being driven west of cross cut by two men, at 9s. per fathom, where the lode is worth for tin 10s. per fathom, and stopping by six men, at 8s. 6d. per fathom. The 165 fathom level is driving west of cross cut by six men, at 8s. 10s. per fathom. The lode is looking very kindly, and worth for tin 10s. per fathom. A stope in the back is worth for tin 12s. per fathom, and stopping by eight men, at 8s. 6d. per ton. A stope in the bottom, east and west of winze, is working by eight men, at 8s. 6d. per ton, and worth for tin 12s. per fathom. In the 137 fathom level rise, west of cross cut, the lode is worth for tin 10s. per fathom, and rising by six men and six boys with a machine, at 8s. per fathom. We hope to communicate this rise with the winze sunk below the 112 fathom level in another fortnight. A stope in the back of the 137 is working by four men, at 8s. per ton of stuff, and worth for tin 10s. per fathom. The 112 fm. level is being driven west of cross cut, by six men, at 8s. per fathom, where the lode is looking better, and worth for tin 10s. per fathom. No. 1 stope in the back of this level is worth for tin 10s. per fm. and rising at 8s. per fathom, and 8s. per ton for stopping. No. 2 stope in the back is worth for tin 12s. per fathom, and stopping by 12 men at 8s. 6d. per ton, and worth for 12s. per fathom. No. 4 stope, east and west of winze, is working by 11 men, at 8s. per ton, and worth for 12s. per fathom. There are 27 stoves working throughout the mine, by 65 men, on tributes varying from 9s. to 13s. 4d. on a standard of 45s. per ton for tin.

WHEAL METAL AND FLOW.—William Argall, S. P. Curtis, September 15: There is nothing new to report in sinking Watson's shaft on the Metal lode; it is still very large, producing a good deal of mundic and a little tin. We have nearly completed the third round bundle, are also laying down foundation for steam stamps, and in a fortnight at the new dressing-floors we hope to have 20 dead frames at work. Our pulverisers are passing through

the past month, during which the stopes continued without any alteration of importance. The works at surface are going on very regularly, and the machinery is in good working condition. We estimate the raisings for September at 300 tons. The tributaries returned 151 tons of ore in the past month.—San Anton Mine: In the 40, driving east of El Tesoro engine-shaft, the lode is large, with good stones of mineral; worth $\frac{1}{2}$ ton per fathom. The lode in the 45, driving west of El Tesoro engine-shaft, is a strong and well-defined lode, and opened up good ore ground in the past month, producing $\frac{1}{2}$ per fathom. In the 30, driving in the same direction, the lode has passed through a strong cross course; we have not yet found the point of the lode on the western side. Emilia's winze, sinking below the 30, is passing through a moderately productive lode, yielding 1 ton per fathom. The lode in Gomez' winze, sinking below the 30, is large and strong, with good stones of ore. The usual quantities of ore were sent to the Fortune Smelting Works in the past month, and the stopes are turning out moderately at present. The surface works are kept on very regularly, and the machinery is working every cheaply. We estimate the raisings for September at 75 tons.

LA TRINIDAD.—A. W. Womble, August 3: In our last report, under date ultimo, we stated we would shut the old mill down this week. We have since opened a very fine body of ore, assaying 93 ozs. I have decided to run the mill on this ore another month. We will then be compelled to shut down, and prepare for new machinery.—Mine: I have broken down in the mine this week 300 tons of very fine ore, assaying 93 ozs., leaving a large body of the same in sight; also continued timbering various levels, and extending car track. Will shortly resume work on our new shaft. The mine is now getting into good order for the 300 tons daily output. I have ordered new pump (Knowles's No. 3) that is present in use being continually in need of repair, and almost valueless.

LINARES.—September 9: Pozo Anchur: In the 135, driving east of Warne's cross-cut, the lode is very powerful, consisting chiefly of carbonates of lime and iron; valued at $1\frac{1}{2}$ ton per fathom. A great length of good lode has been laid open in the 130, driving west of Warne's shaft, but it has declined to 2 tons per fathom. The lode in the 115, driving in the same direction, yields good stones of ore. In the 155, driving south of Peill's engine-shaft, the men are making excellent progress. The lode in the 155, driving west of Peill's engine-shaft, is very open, yielding 1 ton per fathom, and easy for working. In the 155, driving east of Peill's engine-shaft, the lode is small, producing $\frac{1}{2}$ ton per fathom, and the granite very hard. The lode in the 135, driving east of Peill's engine-shaft, continues very small, its present value being $\frac{1}{2}$ ton per fathom. There is no improvement in the 120 driving in the same direction, the lode being small, without sufficient ore to value. The usual quantity of ore was delivered into the stores in the past month, and the stopes are turning out fairly well at present. The works at surface are going on regular, and the machinery is in good working order. We estimate the raisings for September at 250 tons.—Quintos: In the 115, driving west of Taylor's engine-shaft, the lode is small, with good stones of ore. A good length of productive lode was opened up in the 115, driving east of Taylor's engine-shaft, during the past month; worth $1\frac{1}{2}$ ton per fathom. In the 100, driving east of Taylor's engine-shaft, a great length of valuable ore ground has been laid open, at present yielding 2 tons per fathom. The lode in the 90, driving in the same direction, is strong and promising, with good stones of ore. Diaz' winze is holed to the 115, the lode produces 2 tons per fathom. We estimate the raisings for September at 100 tons.

MYSORE GOLD.—B. D. Plummer, August 22: Mining Operations: The lodes in the bottom of Taylor's shaft are strong and compact quartz, 6 ft. wide; assay 2 ozs. 12 dwts. The winze in bottom of the 236, south of Taylor's shaft, 6 ft. wide; assay value, 4 ozs.—The 236 South End: We have just commenced to stope in the back, starting from the point where the old men gave over work. The lode is 2 ft. wide; assay value, 3 ozs. 1 dwt. 6 grs.—The 236 North of Taylor's Shaft: 13 Indians have commenced to work at the bottom of this level on a lode about 3 ft. wide, assaying 3 ozs. 1 dwt. 6 grs.—The 173 South End or West Lode: For some short time we have been driving through what appears to be an arch left by former workers, and for awhile the lode has been about 2 ft. wide, assaying 1 oz. 12 dwts. 15 grs. We have, however, cut through this arch, and the end is again in old workings. The main object at present is to drive this end up until it comes in contact with Plummer's shaft; there yet remains from 85 to 100 ft. to drive.—No. 4 Winze in 173 North on East: This winze is down 21 ft. 2 in. below the 173. The lode is 3 ft. wide; assay value, 11 dwts. 1 gr. It appears to be disordered, and a good deal of schist is mixed with the quartz.—Plummer's Shaft: Good progress continues to be made; the shaft appears to be going down on the underlie, and through the old stuff packed by the ancients after taking out the ore. We find lots of quartz in it, but of little value. The sample assayed yesterday gave a small result of 2 dwts. 10 grs. 8 in., was sunk last week, and the depth of the shaft is now 21 ft. 8 in.—Surface Work: During the last two or three months a large amount of building has been done. Houses for Italian miners, house for the doctor, 18 small houses have been built for coolies employed on the property. All have been built with stone, lime, sand, and tile roofs. They are good substantial houses, and suitable for occupation in this hot climate.

NEW EMMA SILVER.—August 29: My last letter is under date of 22nd inst., since which time east level has been extended 19 ft.; total distance from cross cut, 250 ft. The rock changes very suddenly every few feet; at times it looks almost like ore, then again it will be very hard, and continue so for a few feet. To-day it is looking much better, showing a considerable quantity of iron pyrites, and small specks of sulphurets of silver, but, as usual, in too small quantities to be of value.

NEW HOOVER HILL GOLD.—September 5: Report for the month of August: The Broils shaft is down 45 ft. below the 230, an advance of 5 ft. It is the mean; the stringer of quartz referred to in my last report is somewhat larger, and looking well. There is no other change to note. The winze below the 230 is down 28 ft., an advance of 5 ft. being made during the month. We are still cutting into the footwall, in which there is no improvement to mention from last report. The ore broken from the stopes below the 170 during the month was good, and continues to look well.—Open-end Shaft: An advance of 15 ft. has been made, and the ground is somewhat closer than usual. In the west drift, in the 40 ft., we are continuing to stope, and the ore broken during the month was of a soft nature, of which there was a considerable quantity broken of a low grade, and being soft does not cost but a small price to work it. In the No. 1 stope the ore broken during the month was of a fair quality; there is no change to note in the appearance of the ground at present. The ore broken in No. 2 was good, and continues about the same. We have put the bucket road down to the stopes from the open-cut shaft, which enables us to do the hoisting direct from the stopes instead of the shaft (as hitherto). In the prospecting drift north from the west drift at 135 ft. an advance of 2 ft. has been made. There is no improvement to mention in the appearance of the ground.

NORTH MEXICAN SILVER.—J. K. Owen, September 1: Cusilhuiachic: We have been getting along finely for the last two weeks with our work on the mill. The building frame is ready to be put up, only waiting for the masonry to be completed, which will soon be finished. The lumber is mostly all here, and I am now getting the timber for the machinery ready to go in place as soon as the building is up.

NUN'DYDROOG GOLD.—B. D. Plummer, August 22: Mining Operations: Webb's Shaft: In consequence of the increased quantity of water and the depth of the shaft (now 47 ft. below the 95) the progress in sinking is very small. In another week this shaft will be suspended until we get the ground squared down in back of the 95, and the pumps put in. There is no improvement, and the cross course continues much the same as before reported. The small pumping engine has been erected, and, as soon as the 6 in. pumps arrive, preparations will be made, and we hope we shall soon be able to drain the shaft effectively, and so prosecute the sinking with greater dispatch.—Webb's Shaft: This has been made good, and the timber put in from day, 76 ft. There remains about 23 ft. more to make it complete to the bottom of the 95.—Taylor's Shaft: The work in connection with the angle-bob, and making the shaft the proper size on the underlie, progresses satisfactorily. The bob pit has been cut, and the timber made secure. From this time the men will be employed in opening the shaft, in putting in timber from the point the bob is set to the 95 ft. level.—The 95: A good big pit has been cut; the men are at present making drains to take off the water, and as soon as this is completed they will begin sinking Taylor's shaft below the 95 ft. level.—Surface Operations: The foundation for the 16 in. engine has been excavated.

OUBO PRETO.—August 20: Passage Mine: The rise on incline has been communicated with by blasting a few holes in the bottom of the rise, which advancing hard under the hanging wall in good lode, was still passing over the roof of the winze. The excavation in the winze appears to be about 3 metres deep, so that we have a body of lode here of over 5 metres thickness.—Crosscut to Buraco 2-cm.: It has holed into the old excavation. A strong body of talcose quartz, probably the same through which shaft No. 2 is passing, has split the lode into an upper and lower branch. A vein of white quartz of about 15 centimetres is forming a connecting link between the two branches of lode to the left of the cross cut. Good ventilation having been obtained by this cross cut the level will be advanced further in a northerly direction. Other parts of the mine do not call for especial remark just now. Construction works are continuing.—Raposo's Mine: The Minas Grande adit and middle adit have been brought in communication since the 28th by the shaft meeting with the rise. A good ventilation is thus effected. The work can be prosecuted more vigorously in this section of the mine. The Chapeado Sol lode has also been intersected at the level from Joao Goncalves in good-looking pyritous ore.—The Canal Shaft: Sinking has been suspended temporarily for timbering the shaft.—Construction—Reservoir: The works are progressing satisfactorily. The dam is up 13 metres 40 centimetres. An overflow has been dug in the hill side 24 metres long by 5 metres wide, and 2 metres deep.

RUBY AND DUNDERBERG CONSOLIDATED.—August 23: Dunderberg: The slope between the 400 and 500 ft. levels is producing the usual quantity of low grade ore. A shipment of between 40 and 50 tons is now being made in nine tributaries at work; and 21 tons ore shipped.—Lord Byron: The small stock has been completed to the surface. Hoisting was commenced to-day with a strong downcurrent, fair all through the mine, while the draught up through the first or mouse stock is perfect. We now feel quite certain that there will be no further trouble or delay on account of smoke. Work will be pushed now in all directions with an increased force of men. The only work done during the week was in the bottom drift, which has been advanced 5 ft.; 4 tons of ore shipped during the week.—Home Ticket: The winze at the end of the bottom level has been sunk 7 ft. during the week; total 43 ft. Below the bottom drift the body of iron or low grade ore still continues without any change. Work was suspended at the end of the 30 ft. level at the beginning of last week, and the men put to work sinking on the seam of ore passed through in this drift some time ago. A winze has been sunk 9 ft. During the week the ore has increased in quantity and quality; it is now 3 ft. in width, and carries a high percentage of lead; while this is under the head of Home Ticket it may properly belong to Dunderberg Mine.

SPANISH COPPER.—George Scott, Fronteriza, August 24 and 31, September 3 and 7: I still continue to extract the same class of mineral as that sent per Galicia, which tested over 10 per cent., and I have 20 tons of smalls, also over 10 per cent., and wait to see if you would also like this shipped. New San Jorge shaft is now 12 metres deep. I have made a gallery at 8 metres down and 5 metres long leading into north-west end of opencast. I shall be pleased when the new drift come, the distance to tip being now 55 metres. Copper continues to be precipitated in the wooden launders. Three more workmen's houses are now finished, and a further lot of bricks and tiles is now being baked. There is 12 metres from the former level of head of shaft.

VIOLETA GOLD.—R. B. Nancarrow, September 12: We commenced running two sluices on the 10th inst. from the upper deposit of auriferous alluvium. We have commenced most carefully, watching the action of the water on the alluvium and marking the results, consequently only about 50 tons have yet been treated, but it is encouraging to be able to state that from this comparatively small quantity we have extracted some nice gold. I cannot state its exact weight or value, but may say it is quite as much as I anticipated, particularly as we are working the upper part of the deposit, which is very earthy, as we were anxious to commence on the poor part whilst our sluicing arrangements are being perfected. Next week we intend trying some of the lower strata, from which I fully expect to get gold in larger quantities. We are now catching gold, I believe, in paying quantities; but we must get through more stuff without sacrificing the efficiency. The gold being fine we have proved it necessary to work with a small stream of water. We have blankets which are catching the gold admirably.

ST. JOHN DEL REY MINING COMPANY (Limited).—Advices received 18th September, 1885, ex La Plata, dated Morro Velho, 17th August:—

GENERAL OPERATIONS.

GOLD PRODUCE FOR THE MONTH OF JULY, 1885.—The gold extracted in the above period amounts to 19,291 6 oits., equal to 2224.0075 ozs. troy. It has been derived as follows:—

Morro Velho stamps	17,112 9	from 5218 = 3,279
Re-treatment, &c.	2,178 7	" = 0.417
Total	19,291 6	, 5218 = 3,696

The above produce, as compared with that for the previous month, shows an increase of 718 oits., and is attributable to 340 tons more of mineral having been treated, also to a slight increase in the yield per ton.

COST AND PROFIT.

Produce 19,291 6 oits.

Less loss in melting ... 1157 "

Cost. Oits. 88,746.560 \$500, at exchange 13 1/2d. 6551 3 5

Profit for the month £ 879 9 9

MINE.—Mineral raised from the mine 5083 tons.

Mineral quarried per borer per diem 2-63

Average attendance of borers daily 30-11 "

Average attendance of natives daily 298-36

SUMP.—Fair progress has been made in sinking the shaft during the month. The lines of pyritic mineral are observable in the forebreast immediately above the sink, but underlying south are not met with in sinking. Should they however become thicker in stripping the forebreast at the regular angle they will doubtless extend in the direction of the sump. A slight alteration has taken place in the direction of the mineral lines on the south sides. The lode has opened wider, and instead of following in the course of the south wall, is apparently masking behind the layers of killas composing it. Should this continue to any great extent it may necessitate the removal of a portion of the killas contiguous with the lode. From appearance the mineral should be rich.

No. 1 STOPE.—Those of the eastern face not required in the sump, have been employed in this stope and sides adjacent to it during the month. This stope is still passing through the poorer grade mineral. The stratification of killas is plainly seen in the forebreast, some of it however being highly mineralised.

No. 2 STOPE.—Operations here have been very limited, hence no great alteration has taken place. The mineral portion of the lode is very mixed, the best and most pyritic portion being probably on the north side. On the south, black hard quartz preponderates.

No. 3 STOPE.—A great change has taken place in the nature of the lode in this stope during the month. From the usual angle of declination of the killas of the north wall, that part of the lode designated north branch was expected to be seen some time ago, and its non-appearance was a disappointment. Throughout the month however instead of meeting with the north branch, the mineral portion of the lode in the south side considerably widened until it reached the entire width of the stope, and being composed of approximately horizontal thin layers of pyritic mineral we naturally conclude that it is fairly auriferous. The north and south sides are being stripped down as force and circumstances permit, with the north side being stripped down as far as circumstances permit, but they are not of sufficient size to value.

EASTERN RESERVES.—The lode here is about 13 ft. wide, the most mineralised portion of it being on the south side. The assay value of the stope continues high when compared with the other portions of the mine. A shoot has been completed for the making of a new stope at this point, which will be commenced as soon as some weak ground below has been removed.

GOLD EXTRACTED TO DATE.—The produce for the first division of August, a period of 11 days, amounts to 8054 9 oits., equal to 928.5988 ozs. troy. It has been derived as follows:—

Oits.	Tons.
7236-3 from 1852	= 3-97
818-6 "	= 0.442
Total	8054-9
Mineral raised from the mine	2494 tons.
Mineral quarried per borer per diem	2-71 "
Average attendance of borers daily	70-61 "
Average attendance of natives daily	271-03

The GOLD TROOP, taking nine boxes of bar gold, weighing in all 42,945 8 oits., equal to 4950.9522 ozs. troy, was dispatched for Rio and England to-day.—N.B.: The gold has duly arrived.

CUBA.

MINE—FONTE GRANDE SECTION.—Eastern drift at deep adit horizon. This drift is still being pushed forward, but no special change has taken place in the nature of the lode, small line of quartz and mineral are constantly being met with, but they are not of sufficient size to value.

No. 3 level drift is in fair mineralised ground, the pyritic formation is however hard and coarse. We hope to see a further improvement in this end shortly, as we are now very nearly in to the point where the junction of the No. 1 and No. 2 lines has taken place.

No. 2 level south and west of the No. 1 stope we have laid open a large area of ground on the No. 2 line, and as soon as the junction of the lines of mineral are reached at the horizon of No. 3 level we shall be in a position to commence stopping this ground.

CANTO GALLO SECTION.—The western stope is in well mineralised ground, but the stone is hard and difficult to treat. Its assay value is estimated at over 4 oits. per ton. The ground in the underlie stope has proved so poor that I have been under the necessity of suspending stopping operations. We shall, therefore, drive back a cutting through the poor ground until we intersect the mineral at west of the point where we contemplate sinking on the course of the lode to the deep adit horizon.

REDUCTIVE.—The returns for the past fortnight are far from satisfactory. The mill, though running well, has failed to crush much over 46 tons per day; and the gold returns, judging from the amalgam, will hardly exceed 50 oits. per day. During the remainder of the month every endeavour will be made by selecting the mineral in the mine and on the spalling-floors to improve the results, but as the stone is fairly mineralised this is a most difficult operation. I trust before the end of the month to have a rough grinding pan at work. This will be put to work on sand concentrated in the round pit, and although the results will not be equal to those of the ordinary grinding pan they will help to raise our returns.

The tonnage for the first division of August (12 days) is 554 tons. The retorted gold and melting return will be found in the Cuiba bi-monthly gold return.

COST AND PRODUCE.

Cost on working account £ 729 14 9

Cost on capital account—

Exploration £ 201 7 1

Rego 31 2 6 = 232 9 7

£ 962 4 4

Less value of produce, 231.6049 ozs. troy, or 209 oits., at 3s. Id. per oit.

£ 811 19 5

Excess of expenditure £ 150 4 11

TELEGRAMS RECEIVED.—On August 24th, dated Rio

C. PASS AND SON, BRISTOL,
ARE BUYERS OF
LEAD ASHES, SULPHATE OF LEAD, LEAD SLAGS,
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Date.	Mines.	Tons.	Price per ton.	Purchasers.
Sept. 11—Minera	45	£ 7 15 0	Walker, Parker, & Co.
— ditto	40	7 15 0	ditto
14—Central Foxdale	40	11 5 6	ditto	
15—Lisburne—Giogfawr.	40	8 14 6	Sheldon, Bush, & Co.	
— Giogfach.	30	8 0 0	Panther Lead Co.	
— East Darren.	20	10 19 6	A. Eytom and Son.	
— Cwmystwyth	12	6 15 0	Panther Lead Co.	

BLENDE.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Sept. 11—Minera	30	£ 2 13 0	English Crown Co.
— ditto	30	3 13 0	Vivian and Sons.
— ditto	57	3 13 0	ditto	
— ditto	50	3 15 6	Villiers Co.	
— ditto	50	3 15 0	English Crown Co.	
— ditto	75	3 11 0	Vivian and Sons.	
— ditto	75	3 11 0	Dillwyn and Co.	
— ditto	64	3 4 6	English Crown Co.	
— ditto	30	3 5 6	ditto	
— ditto	24	3 2 9	J. F. Kimmel.	

BLACK TIN.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Sept. 12—Phoenix United	10	£50 10 0	Daubus.	
— ditto	10	50 10 0	Trethellan.	
14—Metal and Flow.	2 5 3 27	48	—	—
17—East Blue Hills	2 14 2 21	50 10 0	—	
— ditto	6 6 1 10	30 10 0	—	

The Russian papers state that M. Gasteiger an Austrian engineer in the Shah of Persia's service, has arrived at Resht in order to make the necessary enquiries as to the construction of a proposed line of railway from that town to Kasvin. According to M. Gasteiger, the cost would be only 110,000 tomans, and the work would be completed in three years. As the toman has varied in value from 13s., its most recent approximate price, to 3s., it is not easy to measure M. Gasteiger's proposition with precision; but it is, of course, something to know that the Shah approves it in principle.

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THE MINING JOURNAL, Railway and Commercial Gazette,

LONDON, SEPTEMBER 19, 1885.

COUNTY CONFERENCE ON CORNISH MINING REFORM.

That reform in Cornish mining tenure is necessary a county meeting, embracing all shades of political thought, has decided in the affirmative. That this reform must come as soon as possible the meeting also decided in the affirmative. Nor can one read the comprehensive report we give without acknowledging that sound reasons were advanced for drastic alterations. As we predicted last week, the gathering was not of a political character. Politics were rigorously excluded. Mr. Robert Symons, of Truro, ventured to suggest that he saw no reason why legislation should not be advocated in the form of Mr. Conybeare's Mines' Leases Bill, and he at the same time observed that he could detect no cause for the antipathy with which Mr. Conybeare's name was regarded. But the meeting would have nothing whatever to do with Mr. Conybeare. All eyes must be shut to what Mr. Conybeare had done, and the Chairman, veteran in mining matters and influence—the acknowledged father of all in mining experience—Mr. T. S. Bolitho—insisted that Mr. Conybeare's name must not even be mentioned, yet we must here say that, taking the discussion as a whole, the arguments and suggestions were practically those embodied in Mr. Conybeare's Bill. In asserting this we simply mean to convey our deep-rooted conviction that but for the appearance of Mr. Conybeare mining reform would not yet have arrived so near measurable distance of practical legislation. However, action has now been commenced in dead earnest, and we cannot believe the people of Cornwall will rest satisfied until there has been amendment in the system of tenure in Cornish mining. There was naturally divergence of opinion in the meeting, some being prepared to go further than others. One plan is certain. There must, the meeting strongly insisted, be compensation for disturbance in the way of unexhausted improvements. On this subject there was no hesitation. That must come. Upon the question of dues there were different opinions expressed. There were those who were in favour of dues upon profits, and those who were not. Both Mr. Vivian, M.P., careful though he be, and Mr. Conybeare, are in favour of dues on profits. Another, and an important point, upon which the meeting expressed its firm sympathy was that the miner should be the first to receive the wages due to him, and the remaining very important matter was that in respect of the evasion of that clause in the Stannaries Act which provides for a financial statement of a mine "not less frequently than four months." This clause is not now penal, but the feeling of the meeting was in favour of its being made so. Most certainly this clause of the Stannaries Act should be made penal. We cannot but admit that, whilst the lease system is a grievous system, the failure of purser to present accounts as required by the Act of Parliament has, in the past, greatly disgusted outside adventurers. A measure of reform has been undertaken by those interested in the industry, which, perhaps, surpasses in importance anything before attempted in the history of Cornish mining.

DYNAMITE, BLASTING-GELATINE, AND GELATINE-DYNAMITE.
The name of Mr. ALFRED NOBEL will always be associated with the industrial explosives of this age. He invented dynamite, and in so doing first made it practicable safely to utilise the potent force of nitro-glycerine for the varied requirements of mining, quarrying, tunnelling, and the like. In doing this he conferred a clear and incalculable benefit upon the community generally, inasmuch as his invention enables many difficult undertakings to be successfully prosecuted with facility, that could only have been slowly, and by comparison imperfectly carried out by the means and methods previously available. Dynamite has been largely used all over the world during the past 12 or 15 years, and our readers would be somewhat surprised if we were to collect and give them an account of the quantity absorbed by industrial enterprises during that time. Dynamite is a mechanical mixture, and its general qualities are now so well known that we need not describe them here. The excellent technical training of Continental engineers and chemists stands them in good stead. Mr. NOBEL, an engineer as well as a chemist of eminence, finding that satisfactory as dynamite has proved itself for most kinds of explosive work, it might yet be improved upon, discovered by careful and patient investigation the explosive known as blasting-gelatine. This explosive is unlike dynamite in this respect—that it is a chemical mixture; and while dynamite contains 75 per cent. of nitro-glycerine, blasting-

gelatine, until the critical moment of explosion arrives, holds no less than 93 per cent. In consequence of this and of the nitrated cotton mixture—itself an explosive agent of great power—that constitutes the rest of the compound blasting-gelatine is said to be really much stronger in its explosive effects than even nitro-glycerine, and to leave no offensive fumes after its explosion. On the Continent and elsewhere it is reported that this blasting-gelatine—being found to be safe to handle, store, and use—is quite unaffected by moisture, and being withal so effective in its results is by its intrinsic excellence replacing dynamite, and is forcing itself into the first place as the best explosive known for mines, quarries, and all difficult undertakings of an industrial kind where a strong blasting force is required. In hard rocks, ill-ventilated workings of metalliferous mines, where the power required is great, in harbour or dock works, and under water generally, its action is said to give better results than any explosive hitherto known. By the two explosives named nearly all the requirements of mining and under-water blasting are met the quick-rending disruptive force of dynamite, and the slower moving but more far-reaching effects of blasting-gelatine being now pretty well known. But Mr. NOBEL was not yet satisfied with the results attained. As some one once said of MILTON that he combined the lofty thought of HOMER with the majesty of VIRGIL, so if we may use the analogy, it may be said that Mr. NOBEL's latest creation, gelatine-dynamite, combines and gives effect to the powers and qualities of the two great explosives that go to form its name. It has gone little further than the test stage as yet; but the accounts that have reached us of its use in mines, limestone and granite quarries, tunnels and collieries, show that it has advantages which the intelligent workman appreciates; that it does the work of dynamite in places which cannot be well ventilated, and that it leaves so little of an offensive smell that miners can go in almost immediately, feel no bad effects, and get on with their work. If it can maintain this asserted excellence, then Mr. NOBEL has added another to the advantages and benefits he has conferred upon the working miner. But that is not all. We know that in what are called fiery mines explosives that emit flame are attended with great risk; but here gelatine-dynamite claims to do the work of powder in coal mines, to get the coal well, and to go through the drift faults with speed, precision, and safety. It may or may not stand the test of experience in coal mines, as well as or better than our old friend powder, whose action in explosion it somewhat resembles. Doubtless this will be rigorously tested by scientific and practical men, and if it stands the test better an additional protection to the lives of colliers will be available. Mr. NOBEL claims to be able to make this gelatine-dynamite to suit the mildest work, and also to meet the surroundings of the most difficult Cornish, Welsh, and hematite mining. To the practical miner, the mine proprietor, and the contractor the question of price delivered at his work, not seldom vitally affects the relative values of explosives. On that point we have nothing to say here; it is one that buyers and sellers must themselves determine. As industrial explosives become more perfect, they become safer, more effective, and more easily obtainable. Miners require power, and they want safety. The inventor looks after the one, and he and the Government look after the other. Safety in carrying, in keeping, and in using, facility of application and efficiency in action are the great *de rebus* in all mining explosives. That so large a measure of these has been obtained for working miners is due

The general tendency at the present time is to increase stocks with a view, it is said, in some instances of meeting an anticipated demand, which it is hoped will shortly be very much increased, and that a satisfactory outlet may be found for the existing enormous power of supply. This month there has been a further increase in the public stocks of iron in Glasgow and Middlesborough of about 15,000 tons. The increase last month was 25,000 tons, so that the ratio has by no means diminished. It is said that makers are sending their output into the public stocks and that their private stocks are on the decrease. This, however, is a matter which cannot be definitely ascertained until the makers' returns are out at the early part of next month, and in the meantime we can only bear in mind that the same argument was put forward in August, and when the returns were published they showed a very large increase in makers' stocks. Turning our attention to copper, there has this month been also a further marked increase in the public stocks of that metal, estimated at about 2000 tons, and which arises partly from the large supply and partly from diminished deliveries. In tin, however, and other metals not much change is reported in the statistical features of the markets. With reference to prices during the week, there has for the most part been an easy tendency, and nearly all metals have been offering at reduced values for the raw material, although manufactured metals have remained tolerably steady; but, then, manufactured is never subject to the sharp fluctuations that characterise the raw material, the latter being the medium for speculation, whilst for manufactured prices are invariably governed by what is actually doing to meet the regular trade requirements. This week there have been two exceptions to metals in general—tin and quicksilver. Whilst others have been easy, these have been strong; and whilst others have been inclined to droop, and holders anxious to rid themselves of their stocks in these, they have been very firm, and not prepared to part with their stocks unless full prices have been paid. Further, the advices from the great centres of the hardware trade show that while no further advance is to be recorded, still in those parts the recent improvement has been well sustained. Sheet-iron and galvanised iron are specially strong, and a great influx of orders are reported, whilst the 1s. 3d. advance for gas tubes and nail strips is readily paid by merchants, and even a rise of 2s. 6d. is sometimes asked. Fresh furnaces are being put into blast for the best qualities of pig-iron, and sellers of pigs generally are said to be realising an advance of 2s. upon the price obtained a month ago. These improved signs in the iron trade prove very welcome at the present time, and if they continue to develop, as everyone must hope they will, there is no reason to doubt that the good influence will spread to other metals, and entirely disperse the gloom that has for so long prevailed.

COPPER.

Throughout the whole week this market has been very languid, and considerably reduced prices have been accepted. The demand is extremely quiet for consumption, and many of the smelters have difficulty in securing enough orders to keep their works in constant employment. The low values do not materially stimulate the demand, so that current cheap prices are partly due to this cause as well as the excessive supplies. Indian business has also been brought to a standstill on account of the unfavourable rate of exchange which entirely swallows up any benefit to merchants by the present cheap prices. In fact, at the present time the disturbed state of the silver market has, perhaps, as great a depressing influence over this metal as any other circumstance, for whilst supplies continue freely to be poured upon the market one of the chief outlets for delivery is temporarily but effectually checked. Cheap as present prices are, the Indian limits are far below them, and during the time that this evil continues the depression must exist more or less. Then as regards the speculative demand, throughout the whole week it has been very quiet. Sellers have preponderated, and buyers have been noted chiefly for their absence. Thus the market having closed last Friday night at 41s. 2s. 6d. for sharp cash parcels of Chili bars, a few parcels changed hands on Saturday at 42s., and whilst sellers were asking 42s. 12s. 6d. for forward no buyers could be found above 42s. 10s. On Monday the price receded 5s. per ton, and on Tuesday 41s. 12s. 6d. was accepted for cash. On Wednesday there was a slight rally to 41s. 15s. owing to the announcement of the charters for the first half of the month as only 1100 tons, and the shipments from Chili 800 tons. The exchange was advised as 23s. 6d., and the price in Valparaiso quoted nominal. This caused a stiffening tendency to the market for a short time, but as the previous charters were exceptionally heavy, and further, as the stock is said to have been increased by about 2000 tons during the first half of September, buyers were by no means ready to pay any advance, and many holders being anxious to rid themselves of their stocks prices again assumed an easy tendency, and yesterday lost all they had picked up on the previous day, whilst this morning the market opened with a very dull and gloomy tone, and business for forward was done at 42s., and there are sellers of cash at 41s. 8s. 9d., and buyers at about 41s. 7s. 6d. only. We do not here propose to touch upon the question of supply in general, for our readers are pretty well acquainted with the quantities coming forward from the principal sources of supply; but to sum up the whole condition of the market as it is at the present time, there is a very heavy supply and a contracted demand for both consumption and shipment. An increasing stock and a strong disposition on the part of holders to rid themselves of their stocks as much as possible, besides a general unhealthy feeling prevailing and little disposition to speculate. Very cheap values are quoted, cheaper, in fact, than at any previous date, and it is a matter of congratulation that, under these circumstances, so many of the copper mines have not only been able to hold their own through the trying time of depression, but have in many instances been able to pay very fair if not handsome dividends.

IRON.

This market has been rather dull, and that better tone, which appeared to characterise it a week or two back, has begun to subside, and those who thought it advisable to purchase for speculation have deemed it prudent to cover with the necessary consequence that where prices before displayed an advancing tendency they have now again commenced to recede, and instead of briskness being a feature connected with the demand, gloom and inactivity has prevailed. Even advices from some of the manufacturing centres are not quite as confident as they were, and often report a flat trade, and those who were misguided enough to purchase heavily in anticipation of a speedy restoration to better times are now realising by experience that supply and demand are the only two influences that can in the long run regulate a market. However not to lay too much stress upon the unfavourable features of the market we would

invite special attention to those circumstances connected with the trade which offer some promise of a slight restoration of the trade. The features may not be very influential, and if placed side by side with other matters connected with the trade, they may sink into apparent insignificance; but still they exist, and should not be wholly lost sight of, nor should the feeling of depression which has for so long pervaded the market prevent us from giving a full and due consideration to any of the bright and encouraging features of the trade. In the first place, there has been a good deal more doing in sheets, in fact, any extra legitimate demand that has existed during the past few weeks has been almost entirely for this description of iron. There has been a better demand for sheets for shipment to most of the Colonies, India, and Russia, and with the result that prices have not only been positively stronger, but an advance of 2s. 6d. has sometimes been paid, and in a few isolated instances as much as 5s. has been realised. We would also make it clearly understood that there has been positively more business transacted in this particular description of iron, a fact which is pretty well known, but whether too much importance has been attached to it or not, it is unnecessary for us to state, but one thing is evident that whilst extra transactions have been carried through in sheets, the enquiries for other descriptions have likewise increased, though transactions have not been much more numerous. This is a matter which has created extra buoyancy, and even some manufacturers have gone so far as to restart extra works, and at any rate if there has been no appreciable increase in consumption and shipment there has been a decided increase in the output, and stocks are being accumulated in the hope of a speedy restoration to prosperity, and during the next few months we shall have an opportunity of proving the stability of the foundations this sanguiness has been based upon. Another feature which has tended to implant more spirit to the tone has been the reports that have come from America, and the rumours of the possible outlook of the trade of that country; and here it is also questionable whether too much consequence has not been attached to the immense powers of trade of that country. If we are to have an American "boom," if there is to be a mania for buying for that country, then, of course, there may be a very substantial advance effected in prices, beside an extensive business transacted; and we should give all legitimate encouragement to the slightest symptoms of revival, or to any feature which would have the tendency towards promoting trade; and, therefore, we bring these matters prominently before our readers, and for detail circumstances connected with the trade in the various iron centres we refer them to our usual weekly report from the several manufacturing centres. The Glasgow Warrant Market opened on Monday with a quiet tone, and business was done at 43s. 2d., and on Tuesday there was very little doing, the price ranging between 43s. 2d. and 42s. 11d. On Wednesday a gloomy tone pervaded the market, and the price receded from 42s. 10d. to 42s. 6d., but yesterday there was a recovery in the tone, and a steady business was carried through between 42s. 10d. and 42s. 9d., and to-day, after opening at 42s. 11d. the market closes at 43s. The shipments last week were only 7557 tons, against 13,167 tons for the same week of last year, being a decrease of 5610 tons, and which makes the total shipments for the whole of this year 316,435 tons, against 400,913 tons for the same time of last year, and 466,038 tons for the similar period of 1883. There are still 89 furnaces in blast, and the public stock has been further increased by 1560 tons, and now amounts to 621,082 tons, against 619,492 tons a week hence. The imports of Middlesborough pig-iron into Grangemouth last week were 6820 tons, against 5550 tons for the corresponding week of last year, or an increase of 1270 tons, and which makes a total increase for the whole of this year compared with last of 82,109 tons. The Middlesborough market is reported flat, and numerous rejections have taken place, which has given an easy tendency to prices. Makers' price for No. 3 has fallen about 6d., and 32s. 9d. has been accepted by them, and the recent improvement has not been supported by any increase in general trade. Rather dearer rates, however, are still asked for forward, and the price for No. 4 prompt delivery is 31s. 9d., and warrants are offering at 33s. 6d. The public stock has increased by a further 7000 tons during the past week, but the shipments have been very good, amounting to about 38,000 tons for the first half of the month, or 3500 tons more than they were for the same time of last month. There is rather more doing in bars and sheets, bars being quoted at 41s. 17s. 6d.; angles at 41s. 10s.; and ship-plates at 41s. 15s. per ton. At Wolverhampton there is reported an increasing demand for finished iron for consumption, and export orders also show some improvement, and prices for sheets and strips are well sustained. Hematite pigs have advanced 1s. to 2s., and Derbyshire pigs are quoted at 39s. to 40s. Some good shipping orders are reported for galvanised iron and general hardware from South America, Australia, and New Zealand. Every effort is being put forward to restart the Osier Bed Ironworks, and numerous hands that have for a long while been out of employment are in anticipation of securing more work again. Prices all round are very firm, and some very large enquiries are reported for iron ores as well as hematites. A very good feeling also prevails at Birmingham, and most manufacturers will not go on selling unless at a decided advance in prices. In cases especially where recent prices have left a loss to the manufacturer sellers are particularly strong, and refuse to go on making sales unless remunerative values are paid. Buyers in some instances have not been prepared to pay the advanced prices, so that sales have not been so very numerous; nevertheless sellers are hard in their quotations. Extra furnaces have been put into blast in the Forest of Dean, as the revival in trade there has also made itself manifest, foreign orders being especially numerous.

TIN.

This week there has been a very good market for tin, and a somewhat extensive business has been transacted. Perhaps there has not been quite so much attention bestowed upon this market as might have been expected, for whilst the recent movements in iron have encouraged more notice, and the fall in copper has caused anxiety, tin may have been more neglected by operators than is usual, but still at the same time prices have been creeping up, and dearer values have almost daily been realised. On Saturday business was done for sharp cash at 90s. 7s. 6d., and on Monday 90s. 12s. 6d. was paid. On Tuesday 91s. was the lowest official quotation, and on Wednesday the price advanced to 91s. 15s. Yesterday no cash tin could be bought under 91s. 17s. 6d., and to-day the market has been well sustained at the highest point until quite at the close, when the price was a little easier. Australian continues to realise a premium of 2s. 6d. over Straits, and prices for forward are still nearly 1s. per ton under those for cash. There is little doubt but that this rise is well warranted by existing features connected with the trade, but it has its origin from the fact that through some error in the last statistics the stock of Banca and Billiton had been over-estimated by about 700 tons. Of course, this error will be rectified in the next returns, but considering there is so much less actual stock to deal with the advanced prices of the week are fully justified, and if we take this quantity out of the figures the statistics would appear much more favourable. A steady hardening tendency, however, such as that which has taken place this week is far better

ments which so frequently do occur, because ts permanency is thereby more likely to be secured, so that the whole course of the market this week must be viewed with satisfaction. The deliveries, however, during the first half of the month have not been very good, and the consumption now, compared with what it was a few months ago, has become extremely limited. But still it is not the advanced prices that check this demand. It is probable that even where prices considerably lower than they now are there would be no material improvement in demand, because the tin-plate makers are under combination to reduce their make, and that not because of the comparative high price of tin, but because of the general depression in trade preventing more than a limited demand for tin-plates. This is a matter which should be clearly borne in mind by any buyers who are holding off in the hope that from this cause cheaper prices will shortly rule, as the course which holders are pursuing signifies that whilst they are not prepared to interfere with business by demanding exorbitant prices, still they are equally indisposed to sacrifice their tin, and evidently have no difficulty in supporting the market. If the consumption here, however, continues small, the deficiency is still fully made up by increased shipments to America, and during the fore part of the present month some very fair quantities have been exported to that country, and this is another cause of support to the market, and whilst prices here have been steadily advancing, prices in America have also remained steady, and at times shown an upward tendency.

STEEL.—A moderate business only continues to be transacted, and sales at times have been rather pressed upon the market. Spring steel can be purchased at 6s., and hoops at 6s. 10s., whilst billets are offering at 6s. 15s.

TIN-PLATES.—The demand is rather quiet, and prices continue to be steadily upheld.

SPELTER is quiet, but steady at 14s. 7s. 6d. to 14s. 10s. for ordinary brands, and 14s. 10s. to 14s. 12s. 6d. for specials.

LEAD is firm, and we quote Spanish at 11s. 2s. 6d. to 11s. 5s., and English at 11s. 10s. to 11s. 12s. 6d. per ton.

ANTIMONY is steady at 36s. per ton.

QUICKSILVER has been raised in price by two successive stages to 6s. 2s. 6d., with business on an extensive scale. The export demand continues good, and the statistics at the close of this month will show a considerable improvement on previous years.

The settlement of the usual fortnightly account in the MINING SHARE MARKET has occupied the chief attention of the dealers this week, and there is very little alteration in prices, or in the amount of general business transacted since our last. Business still reigns, and sellers have to submit to reduced prices on pressure of sales. The mines chiefly dealt in have been Wheal Grenville, East Blue Hills, Blue Hills, West Kitty, Leadhills, Devon Consols, Prince of Wales, South Condurrow, Van, and others.

TIN keeps steady, and statistics, as published, would lead one to expect a rise after the Banca sale. In the standards for ore in Cornwall no change has been made since the 10th, and the margin of profit between the smelter and the miner keeps at 11s. per ton. Blue Hills are quoted ½ to 1; Carn Brea, 3 to 3½; Cook's Kitchen, 10 to 11; Dolcoathes keep very quiet at 72 to 73; East Pools, 45 to 46; East Blue Hills are weaker through market operations at 30s. to 35s. The bottom level has been driven 7 fms. during the past month's work with an average of 18f. per cubic fm., and the mine continues to open out well. Prince Royal largely dealt in at 6s. to 7s. 6d.; New Kitty, 10s. to 12s. 6d.; South Condurrow, 6½ to 6¾; South Crofty, 6 to 6½; South Frances, 9½ to 9¾; Tincroft, 6½ to 6¾; Treavaunant, 2½ to 3; West Bassett, 1½ to 2½; West Frances, 7½ to 8½; West Kitty, 6½ to 7½; Wheal Agar, 19½ to 19¾; Wheal Bassett, 6 to 6½; Wheal Grenvilles, 11½ to 12½; Wheal Kitchen (St. Agnes) 10s. to 15s.; Wheal Metal and Flow, ½ to 1; Killifreath, 12s. to 14s.; at the meeting in Cornwall the accounts showed a profit on four months' working of 6197., and a balance against the adventurers of 497. The tin sold—54 tons—realised 28627., whits, 167. The costs for the four months were 28657., and it was explained that the merchants' bills had been charged to the end of August, but only paid to the end of April. West Godolphin, 13 to 18½; Wheal Owles accounts show tin sales for four months 12437., a loss on four months' working of 6697., and a debit balance of 2427. Had the accounts been made up in the way adopted at previous meetings a balance would have been shown in favour of the adventurers of between 3007. and 4007. It has been the practice here, and in most mines managed in Cornwall, to bring up sales of produce to the day of meeting, while one or, perhaps, two months' costs incurred are kept out. The avoidance of this plan at the present meeting of Wheal Owles adventurers had the effect, as the purser explained, of crediting only 10 weeks' tin against 16 weeks' costs, the other six weeks' produce having been forestalled or taken credit for at the previous meeting on the 11th April, when the sales to end of May had been brought into the accounts, and the costs incurred against it left out. Surely it would be well if all Cornish purisers would follow the example of Wheal Owles, and charge up their costs as well as take credit for all the sales made up to the date of their meetings. Goodere, 1 to 1½; Phoenix, 1½ to 1¾; Polberro, 1½ to 2; West Polbrean, 12s. to 14s.; call paid; Wheal Peevor, ½ to 1; Yeoland Consols, par to 1½ prem.

COPPER is very low, but the market is described as steady. At the Cornish ticketing, on Thursday, the standard for ore declined; the average price of the ore sold was 2s. 4d. The average produce 6½; standard, 76s. 1s. In shares very little has been done, and quotations are merely nominal. Bedford United are quoted ½ to ¾. Devon Great Consols, 2 to 2½; the sale of ore here (750 tons) realised 7657. 3s. 6d. Gunnislake (Clitters), 4s. to 6s.; McLanear, ½ to 1; New West Cadron, 1s. to 2s. Prince of Wales, 8s. to 10s.: the main lode here has not yet been cut. The new lode still contains very rich stones of tin. Wheal Crebor, ½ to 1; the points in operation are worth in the aggregate 59 tons of copper and 26 tons of mudioc per fathom. West Seton, 5 to 5½.

LEAD has improved 5s. per ton, but the share market shows no decided improvement. Vans are quoted 1½ to 1¾; the sale of ores on Monday, 100 tons of lead and 100 tons of blonde, realised 11477. 10s. Great Laxey, 9 to 10; D'Ereby, 1 to 1½, fully paid; a great improvement has taken place here. The lode in the hanging side is reported worth 2½ tons of lead ore per fathom. The mine sampled 15 tons of lead ore this week. Leadhills, 2½ to 2¾, ex dividend. At the meeting the accounts to which we referred last week were adopted, and passed and a dividend of 3s. 6d. per share, equal to 35007., was announced, having been previously declared at the directors' meeting. Roman Gravels, 3½ to 4; at the meeting the directors announced that they had transferred 5007. from the profit and loss account to the reserve fund, thus making it 20007. Craven United, ½ to ¾; Great Holway, 1½ to 1¾; Minera, 5 to 7; South Darren, 6s. to 8s.; Holway District Lead, 15s. to 20s.; Weardale, 14s. to 15s.; good progress is being made with the new machinery at Killhope. D'Ereby, since our remarks above were written, Capt. Nance, who was sent down last evening to inspect, on behalf of the shareholders, the improvement reported by the agents, telegraphed at 3.30 to the secretary—"Winze in hanging worth fully 5 tons per fathom; improving going down." This is looked upon as a great discovery, the hanging side of the lode hitherto having been in shale and unproductive.

FOREIGN MINES.—Almada, 2s. to 3s.; Birdseye Creek, 1 to 1½; Bratsberg, ½ to ¾; Cape Copper, 25 to 27, ex. div.; Chile Gold, 6s. to 7s.; Colorado, 2½ to 2¾; Columbian Hydraulic, 10s. to 11s.; Copiapo, 2½ to 3½; a dividend of 1s. per share has been declared. Frontino and Bolivia, 12s. 6d. to 15s.; La Plata, 4s. 6d. to 5s. 6d.; Myoro, 1½ to 2½; Montana, 2½ to 2¾; Nandydroog, 8s. to 10s.; Organos, 8s. to 10s.; Orita, ½ to 1; Panucillo, 2 to 2½; Richmond, 3½ to 4½; Ruby, 6s. to 7s.; St. John del Rey, 70 to 75; Santa Barbara, 1 to 1½; Schwab's Gully, 3½ to 4½; United Mexican, 2½ to 3½; Victoria Gold, 2s. 6d. to 3s.; Doregum, 2s. to 3s.; Hoover Hill, 6s. to 8s.; Indian Consolidated, 4s. to 5s.; Nouveau Monde, 2s. to 3s.

Mining Notes.

The thanks of the community are due to John Morley, M.P., who, single-handed, has succeeded in overthrowing the giant disagreement at the Elswick Works. The struggle between men and masters was both bitter and poignant. Days came and went; the works stood still; heavy contracts were delayed; the men sternly faced starvation. There was no prospect of settlement. The forlorn hope, however, is the brave man's opportunity, and John Morley, with characteristic fearlessness and a determination to get to the bottom of the men's charges and the masters' refutation of them, has found a solution of the difficulty which is accepted by the masters and by an overpowering majority of the men. The result is one of which any man may well be proud. The Elswick Works will on Monday again resound with the rough music of industry, and capitalists will anticipate with satisfaction the similar amicable arrangement of difficulties between employers and employed.

At St. Just yesterday (Friday), the Wheal Owles meeting was opened to the Press on the motion of Messrs. Weston and Bellingham. London shareholders, a clear proof that mine shareholders generally uphold our principle of open as against secret assemblies. At Wheal Owles meetings reporters have never been admitted, except we believe, on one occasion, when the meeting was held in London. Messrs. Weston and Bellingham, we learn by telegraph, were engaged for two hours in carefully examining the accounts, charges, working, and prospects of the mine. To assist in its development, and at the same time avoid debt, they moved a call of 5s. a share, which was carried, as was also a resolution that application be made to the lords for remission of half dues during pleasure. The new mine is to be sunk, and levels driven under the rich part of the old mine.

Mr. THOMAS WAINWRIGHT, the Winnipeg representative of the Galt Mining Company, has returned from a trip along the Canadian Pacific Railway as far as West Moosejaw, where he has been appointing agents at various points for the company's coal. He said that the track of the mine was about completed, and the first shipments of coal will arrive in Winnipeg early in September. Sheds are being erected in the Manitoba Cartage Company's yard for the reception of the coal, and everything will be in readiness to deliver the coal on its arrival. The company's steamers, Baroness and Alberta, are laid up for the winter at Saskatchewan landing, and will commence running as soon as the ice breaks next spring. It is reported that a large vein of gypsum has been discovered on the Lake of the Woods at Rat Portage.

THE Clifton *Clarion* of August 26 states that the Detroit Mine (Arizona Copper Company's) has greatly increased its output since our last report. Two shafts at the hoisting engine make it yield an average of 50 tons per day. Mr. Crum, assayer for the Arizona Copper Company, is going to stop at the Metcalf Mine some time assaying the various ores to be met with there. There has been no new strike in the district lately except a body of native copper found beneath the moss house of James Morris at the Metcalf. The size of the body is not yet determined.

FROM the very satisfactory report recently issued by the Ecton Company it appears that the recent discoveries at the bottom of the Clayton Mine are opening out well, and yielding rich copper ore. The manager states that it has every appearance of developing into a large body, or chamber, of ore; in fact, it is believed to be a continuation of the famous Clayton "pipe," which yielded such enormous quantities of ore from near the surface down to a great depth, but which was lost at about the 100 fm. level in the beginning of the present century. At any rate, the discovery is both extensive and productive, and is opening out in a remarkable manner, the latest advices received stating that there is a continuous improvement. The stoping of ore in the 140 fm. level is to commence without delay. Average samples of the ore taken from this spot have been assayed by Messrs. Johnson and Sons, Assayers to H.M. Mint, and they show a very high percentage of copper—viz., 23, 15, and 13 per cent. respectively, besides a large proportion of zinc. The dressing machinery is now nearly completed, and in a short time the company will commence to make regular sales. It is announced that the whole of the 25,000 reserved shares are now absorbed, so that the company has ample funds for all purposes, the unexpended working capital being nearly 30,000*l.* It is intended at an early date to commence unwatering and working some of the other mines belonging to the company, notably the celebrated old Ecton Mine, which in the past was even more productive than the Clayton. In the old days these mines returned something like 70,000*l.* a year profit for a long series of years.

At the adjourned meeting of the West Phoenix Mine Company, held at Webb's Hotel, Liskeard, on Tuesday, it was resolved to further prosecute the mine, and drive the 52 and 72 fm. levels, to cross-cut to the new south lode, and to continue operations on it from surface, where there is a lode 3 ft. wide, producing on an average 28 lbs. of tin to the ton, this lode being only 6 fms. from surface, and 100 fms. north of Norris's shaft, and nothing done on it.

THE North Mexican Silver Mining Company (Limited) have received a telegram from Mr. Ottokar Hofmann, their superintendent, stating that he has returned to the mines.

ADVICES were received on Wednesday from the Russell Mine of North Carolina, announcing a clean-up, showing a net result of about 2000*l.*

A SHIPMENT of 2500*l.* of gold was received on Wednesday from Barrett's Berlin Mine in the Transvaal.

THE directors of the Santa Barbara Gold Mining Company (Limited) are in receipt of a cable message from Rio de Janeiro, dated the 11th inst., advising the amount of produce obtained for the month of August as being 3300 oitavas of gold. The value of this produce would amount, at 8s. 6d. per oitava, to 140*l.* 10*s.* sterling.

MR. THOMAS, auctioneer, of Redruth, had a fairly successful sale at Cathedral Consols Mine on Tuesday. The materials, pit-work, small engine, and boiler all sold at prices which, considering the times, realised as much as could be expected. The 60 in. engine alone is left unsold.

THE directors of the United Mexican Mining Company (Limited) have received the following telegram:—The excess of returns over outlay on the mine of San Cayetano de la Ovejera for the week ending September 12, 1885, is \$5100.

A TELEGRAM has been received by the Richmond Consolidated Mining Company from the mine at Eureka, Nevada, as follows: Week's run, one furnace, \$15,000, from 205 tons of ore. Refinery, \$12,000.

From Stockholm it is reported that the apatite mines in the Gellivara district are exceedingly rich, the mineral being of excellent quality.

ROUGH and unpolished diamonds to the value of 613,075*l.* were exported from Kimberley in June.

THE smelting industry is in a bad way in Sweden, and many furnaces have been or are to be blown out. The furnaces of the Asjohutte at Bjurkna, in Nericke, are to be sold by auction. The works were founded in 1638. The Linnebackshutte, at Carlskoga, established in 1656, has been pulled down.

THE British North American Mica and Asbestos Mining Company, with headquarters at Winnipeg, with a capital of \$1,000,000, has made application to the Dominion Government for an Act of Incorporation. The company is composed principally of Duluth and Winnipeg capitalists.

THE La Plata Mining and Smelting Company's (Limited) returns for first half of September are:—Ore received from the company's mine, 250 tons; total ore received, 2700 tons; ore smelted, 2700 tons; bullion produced, 250 tons; silver produced, 60,000 ozs. A dividend of 3s. 6d. per share is rumoured as probable.

THE BRATSBERG COPPER MINES.—The settled produce of the cargo of ore ex C. H. S. is 288 tons of 21½ per cent., 21 tons of 11½ per cent., and 4 tons of 19½ per cent.

AN important discovery of lead ore was made a few days ago at the Hardshins Mine, which adjoins the celebrated old mine called Nether Hearth, on the River Tees. There are such a cluster of veins at this place that it cannot yet be said to a certainty which one it is called; but it is probably one of the veins formerly so rich at the Teeside Mine. The vein is discovered in the Whin rock, and is best setting down in the sole; it is worth 5 tons of ore per fathom, and is well mixed with the mineral called fluor-spar—the true home of lead ore.

ON Thursday the meeting of West Polbreen shareholders was held at the London offices, according to announcement. The statement of accounts showed a balance of 217*l.* 2s. 9d. in the hands of the bankers. There are no arrears of call, and no liabilities due and unpaid. The agent's report may be looked upon as of an exceptionally favourable character. In the discussion which took place the shareholders were allowed every latitude by the Chairman (Mr. J. B. Reynolds). West Kitty affairs were fully discussed, as well as the position and prospects of other mines in the district; but the observations were confined to the mines on the Western hill, these being the mines identified with the management in Mr. Reynolds' office. With regard to the mine itself, taking into account its present state of development, nothing could well be more satisfactory. There is a good lode, which promises to yield very large returns. In the course of his observations the Chairman said there are no persons outside the office more anxious to have full information than those connected with the office are anxious to give.

THE meeting of Roman Gravels Mining Company, on Thursday, was prolonged unnecessarily by a discussion which led to no practical result. If the views advocated by one of the speakers were to find general acceptance among mining shareholders, it would be difficult to get fresh subscribers to ventures of this kind. The landlord of this mine seems to have treated the company most illiberally, and the shareholders have every reason to complain, and to join in the agitation which seems likely to be set on foot for a radical change in the law affecting royalties and mining leases. The mine itself continues to open out satisfactorily, and the fact that it is being well managed is abundantly proved by the position which the company holds in the Dividend-list. Besides paying 5s. per share in the past year, the reserve has been increased to 2000*l.* Such results, in the face of the depression in the lead market, prove that the greatest economy and good management has been exercised. A full report appears in another column.

AT the meeting on Thursday of the Nedenes Copper Company the Chairman drew particular attention to the extent and value of the properties, and both he and Mr. Daw, jun., pointed out that the supply of ore is practically unlimited, and that the whole question is one of cost of production, especially during the present depressed state of the copper market. There is a good and efficient supply of plant and machinery. The attention of the board has been called to a plan for reducing ore which has already been in successful operation on a large scale elsewhere. By this process the copper is produced in a chemically pure state, so that it is worth about 20 per cent. more than by the ordinary process, whilst at the same time the gold and silver are extracted without extra cost. Both of these latter metals exist in this company's ores, and Capt. Daw stated that the ore contained 1 oz. of gold, and from 20 to 30 ozs. of silver to the ton. The expenses of erecting the plant and machinery will be very moderate, as nearly all is on the mine, and it is stated that the present smelting furnaces can be cheaply adapted to the purpose. The Maesel property, which is about 5 miles from the copper property, is covered with a very fine forest of Norwegian red fir pine. There are also on this property, on the other side of the hill, large nickel lodes, which can be worked in quarry fashion. A small quantity of this has been run into regulus, and samples sent to several firms who deal in that metal, and they valued it at 7*s.* 6*d.* per ton. It is stated that any quantity of this can be produced, subject, of course, to the cost of production. The directors intend to propose the issue of the remaining 7216 shares of 2*s.* each, with certain preference privileges and advantages. It may also be desirable to dispose of the Maesel property. From these two sources ample funds will, it is believed, be provided for prosecuting the copper mining and smelting works.

THE proceedings at the meeting of Leadhills Silver-Lead Mining and Smelting Company are reported in another column. Mr. Peter Watson, who presided, was able to make the very satisfactory announcement that the directors had just declared a dividend of 3s. 6d. per share, payable on the 26th inst., as compared with 1*s.* 6*d.* per share at the last declaration. The profit shown was 4015*l.*, and, after the payment of the dividend, 551*l.* will be carried forward. The mine is being developed in a very satisfactory manner, and the results reflect great credit on all concerned. According to the vivid description given by the Chairman the shareholders in this company possess a property which has many advantages apart from its value as a mine. He enumerated amongst other things an excellent hotel, post and telegraph office, two churches, the oldest village library in the kingdom, and, to use his own words, "everything that a tourist could require," and Captain Waters added that there are also a

band of music, a volunteer corps, and a policeman; however great an advantage these three latter institutions may be to the district, it may be questioned whether the average British tourist would look upon them as unmixed blessings. A gentleman named Balderson felt called upon to deliver a short address on the great blessings of temperance, which at any rate had one beneficial effect—pretty well emptying the room, and thus helping to bring the proceedings to a close.

SIR GEORGE ELLIOT, Bart., M.P., arrived at Halifax, Nova Scotia, on Sunday last. After inspecting the coal fields of Pictou, N.S., where Sir George is largely interested in the well-known Albion Mines, he proposes, in conjunction with Mr. W. T. Lewis, of Aberdare, to pay rapid visits to the chief seats of the coal and iron industries of the United States before returning to Durham for the election in November. Sir George Elliot and Mr. Lewis are both members of the Royal Commission for the Prevention of Accidents in Mines, and propose to give their close personal attention to the most recent methods adopted in America for insuring the safety of the working miner.

DURING the past week there has been no large amount of business done on the Cornish Mining Exchange. The tendency, however, is of a healthy character, the disposition being rather to buy than to sell. A subject that has given rise to much discussion in Cornwall this week has been the reported important mistake in Banca stocks of 19,226 slabs, equal to 600 tons of tin. And, too, it has been reported that the stocks of Billiton are less by 60 tons than was thought. It is, therefore, conjectured by many that the stocks for the current month, in all probability showing a decrease, tin will further increase in value. At any rate, taking ordinary supply and demand, there should with this disappearance of a fictitious figure or two be a somewhat considerable reduction shown in the stocks of the world for the current month. Dolcoath are called 73, and East Pools 46; these shares have been quiet, and in them shares are easier sold than bought at the price. Killifretch meeting was a pleasant surprise to the mining fraternity. There were some persons on the Exchange prior to the meeting who were actually prepared to wager that a loss of at least 200*l.* would be reported. Their predictions were falsified, for a profit was given of 41*l.* Then, too, 100*l.* was the sum spent in new machinery, and this outlay will result in a good saving. Taken as a whole the report was satisfactory. It was not brilliant, but with the present position of the mine and the present price of tin a larger profit should be the order of things for the next sixteen weeks. This is a cheap share, and the wonder is it can be possible to knock it down too frequently, as has been done. Since Tuesday's meeting the price has improved. The value is now 12*s.* 6*d.* to 13*s.*, with every probability of going higher. Little doing in West Seton, but more tin is being returned. It is said there is an improvement in South Crofty, and shares have advanced from 5*s.* to 6*s.* buyers. Few shares can be had. No reliable information is to be had as to the nature of the improvement. The newly-established Prince Royal Mine is finding much favour, and many shares have changed hands at 6*s.* A good business has taken place in East Blue Hills and Blue Hills, in the former from 3*s.* to 33*s.*; in the latter from 15*s.* to 19*s.* There has been literally nothing transacted in West Kitty, which closes 6*s.* 17*s.* 6*d.* to 7*s.*; South Frances looks well; shares 9½ to 9½. West Frances flat, 7½ to 7½.

THERE has been rumour this week in the Mining Division that a Conservative candidate is coming forward; but no information is actually forthcoming. The third candidate in the Liberal interest, however, is apparently to reappear, after a comparatively long absence. On Thursday a circular was issued in Mr. Barker's behalf, and it concluded in this way:—"Important notice to the electors. Any electors who may have promised their votes to either of the other candidates, under mistaken notions respecting Mr. Barker's political views, or in consequence of rumours of that gentleman's withdrawal from the Mining Division, will be perfectly justified in changing their minds, a bad promise being better broken than kept."

THE monotonous tale of disappointment and disaster with which shareholders in gold mines have become accustomed, no matter whether their ventures have been in India, in Venezuela, or in the Transvaal, has been this week quite refreshing, varied by the news that at the Violeta Gold Placer, in the north-west of Spain mining operations have commenced, and have already given good results. Under date of the 12th inst. the manager reports that gold was being saved, he believed in paying quantities, and that he considers the results so far quite equal to estimates and expectations. This is indeed good news for the shareholders, especially as he says that only the poor and earthy part of the deposit has been treated whilst getting the sluices into thorough order; and it is believed that when the richer portion is worked considerably better results will be obtained. Those who are responsible for the management of the Violeta Company have certainly displayed praiseworthy energy in getting into active operation, as it is not yet six months since the company was formed, yet some extensive engineering works have been constructed, and actual returns of gold obtained. Such a result, in so short a time, is unfortunately quite exceptional amongst gold companies. We wish it were not so. What vast capitals have vanished amongst the Indian and Transvaal companies without any gold being forthcoming, yet here is a small company whose entire capital is only 60,000*l.* getting gold within six months of being launched. Surely there must be something exceptional about this undertaking, or its managers. If not, why have the big companies done so little?

ANOTHER cave has been discovered in the quartzite, Colorado. This time it is the Golden Wonder Mine that produces its strange cavern filled with bonanza mineral. An opening was found next to the roof, and after clearing the debris from a blast, it was entered and explored for a distance of nearly 60 ft. Between the floor and the roof the space is almost completely filled with mineral, so that it is a matter of difficulty to examine its dimensions. This ore is of the same character that is found near the surface. Within the past few days 30 tons have been shipped, which netted \$3000. The Golden Wonder joins the Percy Chester on the north, and further tests the extent and great value of the ore bodies in the Battle Mountain quartzite. The doubters and sceptics who have asserted that nothing of value can come out of this formation have all disappeared, and they are trying in vain to secure interests in the numerous claims covering this bonanza ground.

The dockyard authorities at Sheerness have received orders from the Admiralty directing arrangements to be made for the building of a steel torpedo vessel. The craft is to be of an entirely new type, and will be 200 ft. in length, and 40 ft. in breadth. She will have a displacement of 440 tons.

STOCK AND SHARE LIST.

BRITISH DIVIDEND MINES.

Shares	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
2000 Bedford Unit, *t, Tavistock (Lillab.)	0 14	0	36	4%	0 1	0 2 Nov. 1881
6000 Carr Bras, t, Illogan†	15 5	5	3%	3	3%	52 11 8. 0 10 0 Nov. 1881
4000 Craigmont Bach, *t, Cardigan	5 0	0	—	—	—	0 8 0 0 5 0 Nov. 1882
124 Devon Gt. Consols, c, a, Tavistock†	1 0	0	2	2	2	118 7 0 8 2 Dec. 1880
4700 Doicouth, c, t, Camborne	10 14	10	73	71	44	4 9. 0 10 0 July 1885
12000 East Foss, t, c, Illogan	0 9	9	48	45	46	4 6. 0 10 0 July 1885
6400 Great Holm, t, c, Flintshire	5 0	0	15%	15%	15%	0 12 0 0 7 6 Sept. 1883
12000 Great Laxey, t, Isle of Man†	4 0	0	10	9%	10%	0 12 0 0 5 Apr. 1885
6400 Green Hurth, t, Durham	0 6	0	5%	5%	5%	0 5 0 0 5 Dec. 1884
9839 Gunnislake (Gitters), t, c	2 2	0	6%	4%	6%	0 19 0 0 2 Mar. 1882
14000 Isle of Man, t, Isle of Man*	5 0	0	—	—	—	0 2 0 0 2 May 1885
6000 Killifreath, t, Chacewater†	4 13	6	3%	3%	4	14 6. 0 2 0 Nov. 1883
20000 Leadhills, t, Lanarkshire	6 0	0	2%	2%	2%	1 10 0 0 3 6 Sept. 1885
25000 Levant, c, t, St. Just	11 5	5	—	—	—	0 2 0 0 2 May 1882
400 Lishburne, t, Cardiganshire	18 15	0	—	—	—	0 615 0 0 10 June 1885
10000 Melinase, t, Hayle	3 0	0	1%	1%	1%	0 2 0 0 2 Aug. 1885
6000 Minera Mining Co., t, Wrexham*	6 0	0	7	5	7	0 69 14 2 0 2 Aug. 1884
20000 Mining Co. of Ireland, c, t, c*	7 0	0	1%	1%	1%	24 0 0 0 2 Jan. 1880
1829 North Hendre, t, Wales	2 10	0	—	—	—	0 3 18 0 0 4 Nov. 1862
6146 Dito	1 7	6	—	—	—	0 11 0 0 2 Nov. 1882
12000 Phoenix United, t, c, Linkinhorne†	6 0	0	1%	1%	1%	17 7 0 6 1 0 4 Apr. 1883
12000 Roman Gravels, t, Salop*	7 10	0	4%	3%	4	9 16 0 0 2 July 1885
6122 South Condufford, t, c, Camborne†	7 5	7	7	6%	6%	12 1 0 0 5 Aug. 1885
3000 South Darren, t, Cardigan	1 10	0	9%	8%	8%	0 4 0 0 2 Apr. 1880
6000 Tinctor, t, Pool, Illogan†	14 18	6	6%	6%	6%	51 3 0 0 5 Dec. 1881
6000 West Bassett, t, c, Illogan†	8 3	4	2%	1%	2%	28 3 0 0 2 July 1885
6000 West Kinnis, t, St. Agnes	0 12	0	7	6%	7	4 18 0 0 10 July 1885
6000 Wheat Agar, t, Illogan	19 6	0	20	19	20	2 5 0 0 7 Aug. 1885
12000 Wheat Creber, t, Tavistock	2 4	0	1	1	1	3 0 0 1 0 July 1885
10000 Wheat Eliza Consols, t, St. Austell	18 0	0	—	—	—	55 10 0 0 10 Aug. 1884
10000 Wheat Grenville, t, Camborne	15 0	0	12%	11%	12%	2 12 0 0 5 June 1885
4295 Wheat Hest, t, St. Agnes	5 12	0	3%	3%	3%	12 18 0 0 1 6 Jan. 1881
10000 Wheal Fesvor, t, Redruth	1 12	0	3%	3%	3%	9 3 0 0 10 Aug. 1885

FOREIGN DIVIDEND MINES.

2000 Alamillos, t, Spain†	2 0	0	1%	1%	1%	2 17 11 0 1 3 Mar. 1885
10000 Almadia and Tirto Consol., *t†	1 0	0	3%	2%	3%	9 6 3 0 1 1 May 1876
20000 Australian, c, South Australia†	7 7	6	2	1%	2	11 13 0 0 2 0 July 1885
15000 Birdseye Creek, g, California*	4 0	0	1%	1%	1%	1 11 0 0 2 0 June 1885
30000 Bratberg, c, Norway†	2 0	0	5%	5%	5%	3 4 0 0 1 2 Mar. 1880
20000 Cape Copper Mining, *t, South Africa	8 2	0	27	25	27	62 7 0 0 15 Sept. 1885
65000 Colorado United, *t, Colorado*†	5 0	0	2%	2%	2%	3 14 0 0 1 1 May 1883
50000 Copiapo, c, Chile (64 shares)*†	3 12	0	2%	2%	2%	2 9 0 0 1 1 June 1885
32200 El Callao, g, Venezuela	40 0	0	70	65	70	36 19 0 0 3 4 July 1885
7000 English & Australian, *t, c, Aust.†	2 10	0	—	—	—	55 10 0 0 10 Aug. 1884
2000 Eng.-Aus. & Vietnamese, *t, pref. (20000 o.)	1 0	0	—	—	—	3 2 0 0 1 1 Mar. 1884
25000 Fortuna, t, Spain†	2 0	0	3%	3%	3%	3 8 0 0 3 8 Aug. 1882
72000 Frontino & Boliv., g, New Gran, *t	2 0	0	3%	3%	3%	2 12 0 0 1 1 Dec. 1883
45000 La Plata, t, Leederville	1 0	0	5%	4%	5%	0 7 0 0 1 1 Oct. 1882
10000 La Trinidad, t, Sonora, Mexico	5 0	0	5%	5%	5%	0 10 0 0 5 Aug. 1885
15000 Linares, t, Spain†	3 0	0	4%	3%	4%	19 16 10 0 3 Mar. 1885
25000 Marbella Iron Ore, *t, Spain	10 0	0	2%	2%	2%	0 10 0 0 10 June 1882
13516 Mason & Barry, c, Portugal, *t	10 0	0	8%	8%	8%	4 3 0 0 8 May 1885
60000 Montana, g, U.S.A.	2 0	0	2%	2%	2%	0 0 0 0 2 July 1884
120000 New Hoover Hill, g, North Carolina	10 0	0	3%	3%	3%	0 3 0 0 3 0 May 1883
125000 Oxford, g, Nova Scotia	0 4	0	9%	8%	9%	0 1 0 0 3 0 1 1 Mar. 1884
20500 Quebrada Rail, Land & Cop. Venezuela	10 0	0	3%	3%	3%	6 6 0 0 6 6 6 percent
50000 Panasilico, c, Chile†	0 0	0	2%	2%	2%	2 12 0 0 1 1 Dec. 1883
25000 Pitangui, *t, Brazil (in 6000 £1 pd.)	0 18	0	5%	5%	5%	0 1 0 0 1 1 Sept. 1880
14000 Pontghibard, s-t, France†	20 0	0	5%	4%	4%	30 30 0 0 11 1 Dec. 1883
10000 Port Phillip, g, Clunes† (41 5s. sh.)	1 0	0	—	—	—	1 1 1 0 0 0 10 Feb. 1881
50000 Rara Fortune, *t, Argent. Republic	1 0	0	—	—	—	0 1 0 0 1 1 July 1882
54000 Richmond Consol., *t, Nevada†	5 0	0	—	—	—	35 15 0 0 5 Nov. 1884
25000 Rio Tinto, c, Mortgage Bds., Huelva	100	0	10%	9%	10%	0 1 0 0 10 Aug. 1885
325000 Ditto, shares	10 0	0	2%	2%	2%	5 5 0 0 5 5 5 percent
60000 Santa Barbara, *t, Brazil	0 10	0	1%	1%	1%	0 12 9 0 1 1 May 1882
122000 Schwab Gully, d, Kimberley	10 0	0	3%	3%	3%	6 10 0 0 10 Jan. 1885
120000 Scottish-Australian Mining Co., *t	1 0	0	3%	2%	3%	20 p. cent. 0 2 Oct. 1884
50000 Ditto, New	0 10	0	1%	1%	1%	20 p. cent. 0 1 Oct. 1884
122500 Sierra Buttes, g, California†	2 0	0	1%	1%	1%	12 11 0 0 11 12 May 1884
12500 Silver Queen Untd., *t, Sonora, Mex.	2 0	0	2%	2%	2%	3 6 0 0 2 0 Oct. 1885
160000 St. John del Rey (10 £ Stock and multiple debenture)†	70 75	0	5 p. cent.	5 p. cent.	5 p. cent.	5 25 0 0 5 25 0 0 5 p. cent. half-year, June 1882
625000 Tharsis, *t, cui, Spain (587300 issued)†	2 8	0	5	4%	4%	7 6 6 0 0 8 May 1885
14000 Tolima, g, z, Colombia (A shares)†	5 0	0	3%	2%	3%	3 6 2 0 0 5 Jan. 1885
60000 Tinto, g, (B shares)	5 0	0	2%	2%	2%	1 5 3 0 0 5 Jan. 1885
12517 United Mexicanos, t, Mexico	9 17	6	2%	2%	2%	2 7 6 0 0 2 Aug. 1885
25000 Victoria (London), g, Australia	1 0	0	4%	3%	4%	0 13 10 0 0 8 Feb. 1881
15000 Western Andes, t, Colombia	5 0	0	4%	4%	4%	4 16 3 0 10 Aug. 1884
21000 W. Prussian (5500 pref. sh. £10 pd.)	10 0	0	—	—	—	4 2 0 0 0 8 Apr. 1881
31000 Yerke Pen., c, South Aust. Pref.†	1 0	0	3%	3%	3%	0 3 0 0 3 0 May 1882

† Have made calls since last dividend was paid.

NON-DIVIDEND BRITISH MINES.

Shares	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
12000 Anderton, t, c, t, Devonshire	0 6	0	13%	—	—	1 1% 1885
12000 Asheton, t, c, t, Carnarvonshire	0 5	0	—	—	—	—
12000 Blue Hills t, c, St. Agnes†	4 12	6	1	—	—	34 1
12000 Brada, *t, Isle of Man	1 0	0	—	—	—	—
12000 British Manganese Company†	1 0	0	—	—	—	—
12000 Burnhope, *t, Edmonbyres	0 10	0	2%	1%	2%	134 24 1885</

Law Intelligence.

VENTILATION OF MINES.

PROSECUTION OF MANX MINING COMPANIES.

Judgment was given on Saturday last at the Petty Sessions, Douglas, Isle of Man, in the cases of Dr. Clement Le Neve Foster, one of Her Majesty's Inspectors of Mines v. the Snaefell Mining Company, and also in the case of the owner of Glen Rushen Mine (Mr. W. P. Pittar), that they did not provide an adequate amount of ventilation "to such an extent to the shafts, winzes, sumps, levels, underground stables, and working places of such mine, and the travelling roads to and from such working places, that they shall be in a fit state for working and passing therein." The suits were brought under sub-section 1 of the 23rd section of the Metalliferous Mines Regulation Act, and they were heard before Mr. T. C. Callow and Mr. Leigh Goldie-Taubman, J.P.'s. Mr. J. S. Gell appeared for the plaintiff; Mr. Thomas Keen (Messrs. Dickenson and Keen) for Snaefell Mining Company, and Mr. Fred. Browne for the owner of Glen Rushen Mine. The suits commenced on Saturday last, when the counsel for defendants argued at considerable length that the Court had no jurisdiction in the matter, their objection being shortly that the words "Summary Jurisdiction Acts" do not apply to the Court in this Island; that in the principal Act the constitution of the Court is defined for England, Ireland, and Scotland, but no definition of such Court is made in the Act for the Isle of Man; and that no part of section 33 gives any remedy in the Isle of Man. Mr. GELL having replied, Mr. CALLOW said as this was a most difficult point to settle, he would go on with the evidence in both cases, and give a decision on the objection raised afterwards.

Dr. FOSTER was then examined at length for the prosecution in the case of the Snaefell Mining Company. He went down the mine with Captain Kewley on the 2nd June, and went into the rise above the 130 fathom level. He tested the air there for carbonic acid gas. The average of three experiments showed the air to contain 1 per cent. of carbonic acid gas. That would be considered 10 times as much as is considered bad ventilation, and from 25 to 30 times as much carbonic acid gas as there would be in the outer air. In fact, the test showed about 300 or 400 per cent. of impure air, thus showing that the ventilation there was exceedingly bad. He then went into the other working places at the end of the 100 fathom level, and made a test there also, in the presence of Captain Kewley. He made two tests there also, and to show how nearly they agreed he might say that the average of the two showed 65 or 65-100ths per cent. of carbonic acid gas. In consequence of the result of these tests on the 8th June last, sent the notice produced to the Snaefell Mining Company. On the 24th July he visited the mine again, and went into the rise above the 130 fathom level. He went higher than on the 2nd June, because work had proceeded since his last visit. He took a sample of the air from the working, and tested it when he got back to Douglas, both for carbonic acid and for oxygen. He found a large excess of carbonic acid and a great deficiency of oxygen as compared with the ordinary air. There was an excess 9-10ths of a per cent. of carbonic acid gas, and a deficiency of 1-2 per cent. of oxygen. A deficiency of 3 per cent. of oxygen was considered by the very best authority on mine air (Dr. Angus Smith) to be very impure and dangerous air to work in, and that was but one-fourth of the deficiency that he found in Snaefell. According to that standard, the air in Snaefell was four times as bad as very bad air. He then proceeded to the end of the 100 fm. level, and there also took a sample of the air, which he also tested when he returned to Douglas. He found a deficiency of 55, or rather more than $\frac{1}{2}$ per cent. of oxygen, and he did not test for carbonic acid. That was, of course, very impure air. He sent notice of the result of that inspection also. His opinion, therefore, was that the ventilation in this mine was exceedingly bad.

For the defence, Captain Kewley and a number of miners, working in the mine on the occasion of the visit of the Inspector, the secretary of the company (Mr. W. E. Young), Captain Reddcliffe, of Great Laxey, and Captain Crowe, a retired mine agent, were called. It appeared that the air is forced into Snaefell by means of a compressor worked by a turbine, the air being conveyed by a pipe to the working places of the mine. The supply from this pipe could be regulated by the men as they wished. All the witnesses from the mine swore that the supply of air was thoroughly adequate, that they had worked them for varying periods, and that none of them had suffered from defective ventilation. None of them had heard their fellow-workmen complaining, and those who had worked in other mines said the ventilation of Snaefell was the best they had experienced. In fact that when the pipe was allowed full swing there was such a draught of air that they could not work; the candles were affected by the draught; the gravel was stirred about, and that on the occasion of the visit of the Inspector a candle was blown out, and a man's hat blown off by the current of air. They, together with Captains Reddcliffe and Crowe, thought the system of ventilation in vogue at Snaefell better than the ventilation by means of which air was conveyed along a damp shaft. A communication was also being effected between the two levels, which would have the effect of greatly increasing the efficiency of the ventilation. It was expected that the communication would be made on Saturday. In the case of Glen Rushen Mine, Dr. Foster said that in company with Captain Barkell he went down this mine on the 31st July. He went into the 30 fm. level, and at the end of the level he took a sample of air. The men were not then working, but they had been at work the day previous, and would be on the following day. He also tried the air there by the candle test. He found that the candle burnt very badly. That indicated a great want of ventilation. He then went into the stopes between the 15 and 30 fm. level, and also took a sample of the air, and tried it with the candle. It burnt better than in the level below, but not thoroughly well. It burnt sufficiently bad to indicate a great want of ventilation. He told Captain Kewley there and then that the ventilation was decidedly bad. When he (the Inspector) got back to Douglas he tested the two samples of air he had taken. The sample from the 30 fm. level showed a deficiency of 2 per cent. of oxygen, and that from the stopes a deficiency of 1 per cent. If one-third of a per cent. deficiency of oxygen was considered to indicate very bad indication, of course *a posteriori* a deficiency of 2 per cent. showed an exceedingly bad state of things. He, therefore, had the rough test with the candle confirmed by the more delicate determination of the deficiency of oxygen. They had no means of ventilation at this mine. Some time ago they had a fan, but that was not used now. In his opinion, in neither of the working places here was there an adequate amount of ventilation.—For the defence Captain Barkell and several of the men were called. They had all worked in the mine for several years, and never suffered any ill-effects from the alleged defective state of the ventilation. They considered the ventilation thoroughly adequate, and none of them had ever heard any complaints about it. Since the communication had been effected by means of the sump, they considered they had sufficient air without the use of the fan. In fact, sometimes the draught of air was so great that they could not work in it, and they had to cover over the opening of the sump to check the current. Occasionally, however, when the weather was very hot in summer, the atmosphere in the mine was a little depressing, and the candles burnt badly, but they did not find any inconvenience.

Captain BARKELL said that on this point he would rather be guided by the practical working of the mine than by any scientific evidence as to the state of the air.—Counsel then addressed the Court.

Mr. GELL asked for heavy fines in both cases; and in the case of Snaefell asked for a continuing penalty since the first notice sent by the Inspector of £1, a day.

Counsel for the defendants argued that the evidence of the men as to their own experience of the state of the air in both mines should be taken before that of an Inspector who only went there occasionally, and whose mission was to find fault; and on behalf of

Snaefell Mr. KNEEN said that the company had provided sufficient means of ventilation, and if the men did not choose to use it by turning on the tap provided, that was not the fault of the company, and according to the provisions of the Act they should not suffer for it.

Judgment was given on Saturday in these cases.

Mr. CALLOW, in delivering judgment, said: I will now proceed to give judgment in the mining cases which occupied such a great deal of time last week. We have considered the matter very carefully indeed as to the first point raised, more especially because the case involved considerable difficulty; but we have made our judgment according to what we considered was the intention, if not the actual wording, of the Metalliferous Mines Regulation Act, and that we were justified in doing by the moral mode adopted in ascertaining what the meaning of statute is. Take Dwarries, page 704, as to the mode of reading statutes. You will there find the following:—

With us it has been shown to be the duty of the judges, where a case occurs which was not foreseen by the Legislature, to declare it *cavus omisus*; or where the intention, if entertained, is not expressed, to say of the Legislature, *quod voluit, non dixit*; or where the case, though within the mischief, is not clearly within the meaning; or where the words fall short of the intent—or go beyond it—in every such case it is held the duty of the judge, in a land jealous of its liberties, to give effect to the expressed sense or words of the law in the order in which they are found in the Act, and according to their fair and ordinary import and understanding.

Bearing that in mind we have carefully considered this Act. That it is very carelessly drawn there can be no question whatever, but it is easy to see how the difficulty has arisen.

The Act was evidently at first only intended to operate in the United Kingdom and Ireland, and at the last moment they have thought it advisable to include the Isle of Man; but they have not included, practically, all those separate matters which ought to have been put forth to make the Act properly include the Isle of Man.

The question is whether there is sufficient in the Act to let us know that it is the intention that it should apply. I think it is only necessary to refer to the clause affecting penalties in which it says, "All offences and penalties must be prosecuted and recovered in manner directed by the Summary Jurisdiction Courts." That is the first point to which I wish to call attention, because it is the first time these Courts are mentioned. After stating that any persons guilty of an offence such as we are now trying shall be subject to certain penalties, it says, "If any person felt aggrieved by any conviction made by the Court of Summary Jurisdiction," &c. This is clearly the Court of Summary Jurisdiction, and was when this Act was passed. That is the first time the Court is mentioned, and it is there without any limitation as to what particular Court it means. Then in the 33rd section—a section very ably brought forward by the counsel for the defendants—it says, "All moneys under this Act may be prosecuted and recovered in manner directed by the Summary Jurisdiction Acts." It is true that those Acts do not apply to the Isle of Man, but there is a separate clause after it, which says, "Before a Court of Summary Jurisdiction." After that it explains what Courts of Summary Jurisdiction are in England, Scotland, and Ireland, but not the Isle of Man. Therefore I consider that a Court of Summary Jurisdiction, which is not excluded by the express wording of the statute is a Court of Summary Jurisdiction within the meaning of the statute. And as the Act applies to the Isle of Man, the effect of any other judgment would be to render the Act nugatory, and be in effect saying that it shall not apply to the Isle of Man; whereas there is nothing to show it does not apply to the Isle of Man. Therefore it is with very great hesitation that we have decided that in our opinion that we have sufficient jurisdiction to warrant us in trying these cases. I am very glad we took the precaution to take both points together, because if the parties are not satisfied with our judgment, and that is very probable, the whole case can go forward without any additional expense.

Mr. KNEEN: No, sir, we can have no appeal on a defect in the Act.

Mr. CALLOW: I have nothing whatever to do with that. If in my opinion the words are sufficient to give me jurisdiction, I am right to act upon them. Whether I am right or wrong, it is not for me to say.

Mr. KNEEN: The appeal is to the quarter sessions; and as we have no quarter sessions here we cannot appeal.

Mr. CALLOW: I think you will find there is a remedy in the Act. Then comes the real question to be tried, and a very important question it is. It is a question we have taken every pains with. We have gone very carefully into the evidence to see how it affects the question. On the one hand it is a very bad case for the owners of the mines if they should be put to such serious expense that it would be impossible to carry on the mines, but it is still more important that the men should be working only in places where there is a proper supply of pure air. The object of the Act (page 531) is "to examine into and make enquiry respecting the state and condition of any mine to which this Act applies, or any part thereof," and the ventilation of the mine is dealt with in section 23, sub-section 1, which says:—"An adequate amount of ventilation shall be constantly produced in every mine to such an extent that the shafts, winzes, sumps, levels, underground stables, and working places, of such mine, and the travelling roads to and from such working places, shall be in a fit state for working and passing therein." It is clear, therefore, that the ventilation which is required by this Act is not the ventilation of any particular part of the mine where the men may be working, but in the whole of the mine. Then the Act goes on to say that every person who shall be guilty of any offence against the Act shall be liable to certain fines. The question then for us to ascertain in the first place is what is ventilation. Now, I suppose ventilation to be a proper supply of pure air, or a sufficient supply of air sufficiently pure to render the place safe for the miners to work in without injury to their health. That appears to me to be so, and if there is a doubt in this case whether the air was in a small degree impure, I should feel no difficulty in deciding. How is it to be ascertained? We have had this mode before us. One by testing the air in the mine by a scientific man with scientific tests. The other was by bringing before us the men and captains to show what a healthy set of men they are. They did not appear to be suffering. But I contend that that is no answer if we are satisfied that the test applied showed us that the air was unfit to live in. That is my opinion. Then what is the object of the Act? The main object of the Act is to protect the men, and to protect them from those things they are unable to discover for themselves—whether the mine is in a fit state to work in. I do not believe any man by his mere feeling can tell whether he is suffering injury or not. It is all a matter of time, as the Inspector says. Take a coal mine—see the restrictions the men are under there, but look also how careless they are. They will not even take the ordinary precautions to avoid disaster from fire-damp. Take sanitary measures and you will find almost always that parties who are suffering most from defective sanitary precautions are the most blind to their own interests. They probably feel, as the miners do, that they are not suffering injury, and therefore they do not wish sanitary precautions to be taken. People living in such places do not understand it, and apparently do not suffer. But if the opinion of the men working in a mine is sufficient there is no reason why the Government should appoint a scientific Inspector to apply tests, which I presume are infallible. Then there is another matter, if it should be proved that the air cannot be made pure without great expense, then I am afraid, so far as the law goes, the mine must be closed; but I do not apprehend that anything of the sort will happen. As far as I can see, and I do not pretend to know much about it, the miners themselves have the power to make the air sufficiently pure. We find an Inspector appointed by the Government, and a man occupying a very important and onerous position must be a man of ability, and he must be so if we are to judge by his evidence, which is not contradicted. We find he is a graduate in the school of mining, a doctor of science, that he has taken honours in chemistry, and that he is a prizeman. Has he any experience? We find he has been seven years Inspector in Cornwall, and five years in the district in which the Isle of Man is included. He must, therefore, know his business, and may be trusted to do his duty. Then, are reasonable allowances to be made for want of the air being entirely pure? According to my opinion air in a

mine cannot be made perfectly pure. Then the question is whether the air is reasonably pure and sufficiently so to comply with the Act, and not endanger nor imperil the lives of the men engaged. Now, I will take the case of the Snaefell Mine first. The first inspection was made on the 2nd of June, and, as he has been accused of being a severe man, it should be borne in mind that there was a complaint last year. It does not, therefore, look as though he would bring cases unless he could avoid it. He made three experiments. The first was in the 130 rise, and the result was that he found an excess of carbonic acid gas of 1 per cent.; and he says also that 1-10th of an excess would be bad ventilation. In the 100 fathom level he found 65 per cent. of carbonic acid gas. In the one case, therefore, it is 10 times as bad as bad ventilation, and in the other six times. He does not take any steps on that, but on the 24th July he visits the mine again in the hope, no doubt, of finding things improved, but he finds them 9 per cent. in the 130, and a deficiency of oxygen of 1-2 per cent. Now, when we consider that the amount of carbonic acid gas in the air in its natural state is only 4, we find here that things are very bad. The excess of the gas in this mine is according to that very great. He states also that an excess of 1-10th would be very bad ventilation. Under these circumstances, is there anything to show that he is not correct? No, there is nothing to throw any doubt upon the result of his test. I expected we should have had the results of tests made in a similar manner by the captain of the mine so as to show what the Inspector found was an exception, and was not generally so in the mine.

Mr. KNEEN: That would not have been evidence.

Mr. CALLOW: If they had been taken on that day, and it showed a different result, it would have been.

Mr. KNEEN: That day, Sir?—Mr. GELL: And on that day you would expect it to be so.

Mr. KNEEN: There is not anyone in the Isle of Man who can do it.

Mr. CALLOW: All I know is that the Inspector said he could teach Mr. Kneen to make the test in an hour. At all events they should have such machines as would enable them to test at any time whether the air in the mine is pure or not. We are at any rate satisfied that on both the occasions referred to the air was bad and did not come up to the requirements of the Act. I do not say that the directors have not taken great pains to make the mine healthy; in fact, they do appear to me to have done so. The use of a compressor, it seems to me, is to clear the bad air out of any mine if there was sufficient power and pressure. But, there again, I am afraid in a great difficulty on account of the difference in the result of the evidence given as to what amount of air a 2-in. pipe would discharge at 60 lbs. pressure. The Inspector tells us 120 cubic feet, and Capt. Reddcliffe 4000. Inasmuch as the amount a man destroys is 100 cubic feet per day —

Mr. KNEEN: 400 odd a day. He said he thought there ought to be 100 cubic feet of air put into the mine per minute, not into the man.

The CLERK: The evidence says that 100 cubic feet is the requirement for a man, including the consumption of the candle and other things which tend to exhaust the air included.

Mr. CALLOW: Of course, if the compressor only gives 120 cubic feet per minute I can understand why it is not sufficient, but there would not be any difficulty in enlarging it. If it gives 400 cubic feet per minute it must be the fault of the men and not the directors if the mine is not ventilated. If the tap is shut, and then there is no air, of course, it is the fault of the men. If the air introduced is anything between 120 and 400 it might be made sufficient to ventilate the mine. By now I suppose there is another mode of ventilating Snaefell Mine by the communication between the 100 and 130, and I, therefore, suppose this is the last case we shall hear of against this mine. There were two charges against this company, in both of which the air was found to be insufficient. The sentence of the Court, therefore, is that the company shall be fined £1. a day for each offence. As probably there will be no further complaint against the mine there is no need to inflict a heavier fine.

Mr. KNEEN: We cannot appeal on that penalty. The fine must be half the maximum or else we cannot appeal. But as I am doubtful whether there is any appeal I will submit to the fine named.

Mr. CALLOW: I am most anxious that you should at once have an opportunity of taking the opinion of the Appellate Court.

Mr. KNEEN: The Act provides that where imprisonment is adjudged, or the penalty of half the maximum allowed by the Act is inflicted the party may appeal. That would be an appeal on the facts of the case—whether or not there was good or bad ventilation. On the question of jurisdiction our appeal will not be under the Metalliferous Mines Regulation Act, but under our Summary Jurisdiction Acts, with regard to the jurisdiction of the Petty Sessions Court. So we can appeal under that Act on the question of the jurisdiction. We will not, therefore, ask you to give us an opportunity of appealing on the facts.

Mr. CALLOW: My object is to set right because I am not sure that I am right. There is not much necessity to go so fully into the Rushen Mine case, as the evidence is much the same as in the other. The Inspector took two samples of air there. One in the 30 fm. level, and in that he found a deficiency of oxygen of 2 per cent. That must be very bad ventilation indeed. In the stopes there was a deficiency of 1 per cent. of the same gas, also indicating very bad air. It seems that there is no system of ventilation in use. There is a fan which used to be in use, and which would have the same effect. There is no doubt they want something to increase the ventilation, but, of course, that is for the parties themselves. I see that every effort has been made with such non-knowledge of the exact state of the mine, but now it is the duty of the directors to get this scientific apparatus so that they can see at any time whether the air in the mine is or is not sufficiently pure. Though the men may be sufficiently healthy—and I never saw a healthier set of men—we cannot tell what bad effect it may not have on them. The main object of the Act is to protect the workmen, and when, therefore, it appears to us that the air is such that they should not work in it, it is our duty to see to it. The fine will be £1. This order carried costs and the travelling expenses of the Inspector.

HIGH COURT OF JUSTICE.
(Sittings in Bankruptcy before Mr. Registrar PEPPS.)

IN RE RICHARD ATTENBOROUGH

A receiving order was granted on Tuesday, under a petition presented by Richard Atttenborough, described as of Great Queen-street, Lincoln's Inn-fields, and late of Northampton, trading under the style of Stensen and Co., as ironmasters and colliery-owners; also of Brixworth and Spratton, trading under the style of Atttenborough and Company, as ironstone makers; also under the style of the Hall of Lea Colliery Company, near Stoke-upon-Trent; also under the style of the Wedgwood Coal and Iron Company, near Tunstall; also at the Lower Resolven Colliery, near Neath; also under the style of the Strata Florida Lead Mine Company, near Aberystwith; also lately under the style of Hoe and Co., at 37, Old Bond-street, as silversmiths and jewellers. The liabilities were estimated at about 100,000L. The public examination was fixed for the 3rd of November.

At the London Bankruptcy Court, on Thursday, an application was made to Mr. G. Wreford, assistant-receiver, for the appointment of a special manager of the businesses of this debtor, whose failure was announced on Tuesday.

Mr. HERBERT LOW (Smith, Fawdon, and Low), in making the application, stated that there were five collieries and ironstone mines in full work in England and Wales, and it was of the greatest importance that they should be kept going, in order to complete contracts outstanding, and preserve the estate for the creditors.

In reply to the CHAIRMAN, the DEBTOR stated that the gross liabilities were about 250,000L of which 200,000L were fully secured, and the present application was supported by creditors for 30,000L.

Mr. WREFORD said that that was a very substantial majority in support. Mr. HERBERT LOW said that the gentlemen proposed to be appointed was Mr. Roderick Mackay, accountant, Old Jewry, and he was also instructed to apply that the debtor should be allowed his assistance in the preparation of the accounts.

Mr. WREFORD granted the application, and stated that the remuneration would be allowed upon the same basis as an official liquidator in the Chancery Division.

Mr. GEORGE ATTENBOROUGH appeared in support of the application.

EXTENSIVE BANKRUPTCY OF IRONMASTERS.

On Tuesday at the Dudley County Court—before Mr. Registrar WALKER—James Turley and John Turley, trading as Thomas Turley and Sons, ironmasters, Tipton, came up for public examination in bankruptcy. Mr. Jobson, the Official Receiver, conducted the enquiry, whilst Mr. Waterhouse appeared for the debtors. The examination showed the liabilities of the firm to be 20,262*l.* 2*s.* 8*d.*, and the assets, after deducting preferential payments, 4,499*l.* 17*s.* 2*d.* On the separate estates James Turley owed 206*l.* 0*s.* 10*d.*, and his assets were 209*l.* 9*s.* 8*d.*; and in the case of John Turley the liabilities were 230*l.* 9*s.* 1*d.*, and assets 216*l.* 1*s.* 2*d.*

The elder debtor stated that they took to the business on the death of their father at the end of 1877, having been previously in partnership. They scarcely knew their position at that time, owing to the books not having been thoroughly entered up. In 1883 they had a new set of books, and those had been made up. There was a small adverse balance at the Staffordshire Joint Stock Bank in 1877, and it had gone on getting larger. Up to a certain time the bank trusted them without security, but afterwards asked for and obtained it. The bank charges had been close upon 10 per cent., and there was the discounting of bills in addition. Did not take stock or make a balance-sheet until the private meeting of creditors was about to take place. The entering up of the books was frequently delayed by witness's illness. During the trading from 1877 to the time of the petition witness did not think they made a profit every year. He should be surprised to know that there had been a loss of over 400*l.* during the period mentioned. The firm had incurred debts to the extent of 1200*l.* within four months of the bankruptcy, but that was due to the fact that they were current accounts going to carry on the concern. Accounts had been paid in that time. In conclusion, the debtor denied any unfair or fraudulent trading.

JOHN TURLEY was also examined, and denied any false entries or unfair and dishonest trading or concealment.

Both debtors then stated that they were unable to give an account year by year of their trading from their books.

The debtors were allowed to pass their examination.

COLLIERY ACCIDENTS.—No. III.

BY A NORTHUMBERLAND MINER.

In the mines which give off only small quantities of gas, and in which the ventilation is good, the miners may work years, or even a lifetime, without discovering fire-damp in dangerous quantities. In such cases the miner who had studied the subject of mining would not require his skill for the purpose of protecting himself against fire-damp. That skill, however, would not be without its value to him. If ever there is in this wide world a person who deserves to be pitied, it is one who is under a fear of personal danger, when the fear is known by others to be groundless. The miner's skill would enable him to realise the fact that he was really safe, and the sense of security with which he would follow his employment would add very much to the happiness of his life. The miner is not, as a rule, seriously troubled with fears of danger. He is rather indifferent in this respect, and goes to the pit with much the feeling with which an old soldier goes into an engagement. But I have known miners who had faced many real dangers, and whose courage had stood severe tests, become possessed of the idea that they were in the midst of great dangers, and have alarmed all who were concerned in their safety. The fears, of course, were groundless. I could give many instances of this kind, and have long been of opinion that a theoretical knowledge of mining is of supreme value to the miner not only as a means of protection, but as calculated to give that sense of security which nothing else can give. I have dealt with the ignorance which prevails among the miners as to the nature of the gases which carry so many of them to a premature grave. I took this part of the subject, first because the public hear so much more about accidents by explosion than about those from other causes. The number of accidents caused by falls of stone and coal is, if taken over a large period, much larger than that caused by explosions. Scarcely a day passes without a paragraph appearing in the papers announcing a fatal accident by a fall of stone or coal. Only one life is lost, and the public attention is not diverted. But at the end of the year the number of deaths from these causes is generally greater than that caused by those terrible explosions which thrill society and touch the pockets of the philanthropic. The prevention of these accidents is a question which can only be solved by the miners themselves. All that the owner and the Legislature and the Inspectors can do is to ensure that the miner shall always have a sufficient supply of timber at hand. The miner himself must be able to detect the danger and apply the timber. This is a fact which should be pressed on the attention of the miners. In urging it I am not sure that I will meet with the approval of the large body of miners, who attribute the majority of accidents to the carelessness or incompetence of the underground officials, or to the indifference of the owners. The remedy, they maintain, must, of course, be provided by the Legislature in the shape of Liability Acts and increased inspection. But however much such proposals may, if carried into effect, do to improve the ventilation and to ensure that every miner will always have a good supply of timber, it cannot provide him with that skill which tells him when danger is at hand and how it is to be averted. There are deputy overmen (or foremen) it is true, but they possess no special training, and if they did, they can only spend a few minutes per shift besides each hewer. Their number should be increased, I will be told at once. Such an increase means an increase in the cost of production, which is a thing not to be regarded lightly in these days of trade depression. Moreover as the wages of a large number of the miners are regulated by the sliding-scale, every increase in the cost of production really means a reduction of wages and *vice versa*. Mr. Burt has said that this question of accidents by falls of stone and coal must ultimately be solved by the miners themselves. I do not give his exact words, as I quote from memory, and, so far as I know, he is the only one who has made this statement. I am discussing these questions entirely from the point of view of the working miner. I might say a good deal about the hardships which the miners suffer, and of their real and imaginary grievances. The hardships are not due, I think, to any inherent badness in the employers or their subordinates. The miner has real grievances; but they are due to the foolish customs which prevail amongst the miners, and to the unsound notions both the miners and their employers have of their relations to one another. The one fact which has impressed itself on my mind during my life in the mine is that if the miner means to reduce the number of accidents from falls of stone and coal to a minimum, he must do it by his own skill and strength of arm. So important does this fact seem to be that I would never tire of repeating it, and will take up some of your valuable space with the discussion of the details of the question. When the coal is extracted the roof shrinks. Under the longwall system the superincumbent strata settle gradually down on stone works which are built up as soon as the coal is extracted. Should the stone immediately above the coal be of a soft nature, or contain a large number of cleavages,

it breaks up in the shrinking, and is a source of fresh danger to the miner. He protects himself by placing timber under the dangerous stone. This timber, when fixed, places the miner at a disadvantage by obstructing his work, and blocking the road by which he would escape from the danger. It is, therefore, important that he should ensure his safety with the smallest number of props. In the case of boards the roof does not shrink, but small pieces of stone give way and cause many accidents which can only be prevented in the same way. The miner should therefore understand the nature of the stratum next the coal. He should also be able to trace the cleavages (or partings as the miners call them). When he has done this he has done a great deal, but there is still something important to be done. He must be able by sounding a piece of roof to know whether it is thick or thin, and whether it is likely to fall. If you strike a thick, hard roof with a pick or axe a sharp sound will be produced, and the pick or axe will rebound, but should the stone be thin and likely to fall the sound will be flat or hollow. Now, when the miner commences to hew coals he has learned nothing about the nature of the stone and the cleavages and the sounds, except what he may have gathered from his own observation as a boy. This much is certain, he has been taught nothing. And even if he were a clever boy he has not the opportunities of observing that anyone has who is constantly employed in the face. He commences to hew, therefore, with practically no knowledge of the dangers which he is soon to encounter. We will suppose the boy is not clever, but of ordinary capacity, and that he hews until old age comes upon him; how much knowledge might he be supposed to possess then of the dangers and their prevention? This much, that if you strike the stone and it produces a hollow sound it is dangerous, if the sound is not a hollow one there is no danger. So he would work away without fear of danger. Now if the stratum next the coal were (say) 1 ft. thick the miner would know this by sounding the stone, but if the stratum were 6 ft. thick instead of 1 ft. the sound would be much sharper, and he would consider himself safe. I need not say that thick stones are under certain conditions just as likely to fall as thin ones, and this is how many accidents occur. The miner strikes the stone, the sound is a sharp one, and he considers himself safe. The cleavages have little or no meaning to him. I repeat the only thing that concerns him is the sound. It would be a great mistake for anyone to imagine that the miner's ear is highly trained or extraordinarily sensitive. He may learn music, or teach a choir or brass band, and give proof of a highly delicate ear, but he never seems to imagine that a thick stone in the mine might be dangerous, and that the danger might be ascertained from the sound by a delicate ear. Thus the miner neglects on every side the knowledge which would be of most service to him. It is, in fact, almost incredible how little knowledge the ordinary miner possesses of the dangers which he so often meets. When a fall of stones takes place, and carries a life away, the few who visit the scene are invariably able to point to the cleavage which caused the fall. "Here is the parting (cleavage separating under from upper strata) from which it fell. Here is a jack (cleavage) in the right side, and there is another on the left." And then it is concluded that the fall was a pure accident, and would neither have been foreseen nor prevented. Yet a close examination would probably show that these very cleavages were visible for some distance from the fall, and that the merest attention to them would have discovered the danger. The number of miners who have come across instances of this kind is not small. When a life is lost by a fall the evidence given by the deputy overman is the old, old story. "I gouged (sounded) the stone, and considered it was safe." In such case the working mates of the deceased have testified that "there was plenty of timber at hand. They examined the stone, and considered it quite safe, and consider that no blame can be attached to anyone." I have known evidence of this to be given in the greatest sincerity. I believed every word of it, but also believed after hearing particulars that a very little skill on the part of those concerned would have prevented the accident.

MINING PROSPECTS.

MR. JOHN B. REYNOLDS writes:—The markets generally have been quiet, but firm. Mining shares, as a rule, have, however, been weak; indeed, almost the only exceptions to the rule have been West Kittys, which show an advance, and they have been in demand all the week. Not many have, however, changed hands, there having been but few holders sufficiently unwise to sell at current prices. The shares leave off 7*s.* buyers. It must not be forgotten that 3*s.* 18*s.* per share has been paid on these shares in dividends upon an outlay of 12*s.* per share, and probably a more successful future than ever is in store for the company. Dolcoath, East Pool, Trevaunance, and Wheal Agar have been quiet but firm, and these may be considered as first-class properties. West Polbrean is regarded as a first-class speculation, seeing that they have such a very promising lode, and that this lode is almost certain to turn out to be one of the champion lodes of the district, the belief that these shares cannot possibly remain at their present low price seems perfectly reasonable. It is not a little satisfactory to notice the progress of Wheal Grenville. The shareholders have here proved themselves to be gentlemen of discernment and ability, deserving of all the success which can fall to their lot. The dividend mines are not many, and had it not been for the undoubted prospects of a few progressive properties the immediate outlook for Cornwall would not be cheering, but there are some progressive mines certain to come to the front, and they will greatly relieve the monotony of the work to be done by reporters to the weekly papers—a monotony which is as painful to the reporters as to the readers of their mining articles. Amongst these valuable progressive mines, and in the front rank, is Polberro. It was expected in the case of West Kitty that the outlay would be large, and the time considerable ere the present company would reap their harvest, but 12*s.* per share did the work, and as is well known a short time found them in the Dividend List. What has been may be again. Let the readers of the *Mining Journal* take note.

The reports from New Kitty are not without encouragement. This mine has not been the quick success which some predicted, but that is simply illustrative of the speculative character of mining as a rule. The operations, however, have been judiciously carried on, and looking at the concern all round there is not a more creditable company in the list of Cornish mines. Here, again, success is richly deserved. Let us hope it will be quickly reached.

Having seen many notices respecting improved prospects of Carn Brea I take this opportunity of saying that there would be nothing calculated to give greater impetus to mining generally than the cutting rich of this mine. Apart altogether from the importance of such a discovery to the shareholders, the circumstance would be another proof that the riches of the Illogan district are practically inexhaustible.

West Polbrean meeting of shareholders held, last Thursday, was remarkable, amongst other things, for the discussion which took place on the question of finance, and I can only say that if all shareholders in mines resolved to commit themselves to cash payments and to make calls to pay up all outstanding obligations, mining would re-assert itself in the estimation of the public. In

all mines, as I believe, the shareholders would find that the officials would do their part heartily and well, for I look in vain in the business world for more judicious gentlemen than are found as managers of the leading mining properties. It is the shareholders, however, who must take the initiative in this much-needed reform.

THE UTILISATION OF CARBONIC ACID.

The poisonous carbonic acid, which in the gaseous form is so well known and dreaded by miners, and known as "choke damp" and "after damp," is now being utilised for fire-extinguishing purposes, and its effects are now being shown by experiments in various parts of the country. The capabilities of the acid have long been known, and it is rather surprising that they have not been taken advantage of before. The carbonic acid is produced in all mines by the breathing of the workmen, the combustion of lights, the fumes arising from explosives, the fermentation of animal and vegetable substances, and is amongst the commonest of the gaseous products of coal. It has also a most interesting history, taken from its first and gradual formation. The carbon itself, from which it is produced in the first instance, is the principal property found in coal, which consists of about 80 per cent. of it, with 15 per cent. of oxygen and 5 per cent. of hydrogen. Pure carbon, however, is only to be found in the form of the diamond, and which on being volatilised by the intense heat obtained from electricity can be converted into coke. The next nearest approach to pure carbon in its natural state is plumbago, or black-lead, consisting of carbon, with a very small percentage of iron. Coal itself is classed as a hydro-carbon, with which mineral jet is closely allied in composition, as is the well-known fossil resin, known as amber, consisting as it does of carbon and hydrogen. Carburetted hydrogen gas, the cause of mining explosions when burnt in the air, also produces carbonic acid and water, whilst the decomposition of carbonates by acid waters likewise forms it. The acid, too, it appears, can be compressed in the liquid state, and carried about. In fact, in Germany, in particular, carbonic acid has become an article of commerce for many purposes, and, no doubt, will be in this country the more its valuable properties become generally known. At present, it is better known as a dangerous element in the working of mines than for anything else, for it does not support life, but, when inhaled, to a certain extent causes suffocation in a very short time, being only produced by some pains in the head and eyes, yet, like many deadly poisons, it has its valuable properties, and which can be readily utilised. Not the least of these is that rapidly extinguishing fires in mines or on the surface. It is much heavier than the air, its specific gravity being 1.924, and water dissolves a volume of it nearly equal to its own by atmospheric pressure, and in mines is found to accumulate in the lower parts, whilst the fire-damp, owing to its lightness, settles on the roofs of the working places, notwithstanding the fact that all gases possess the property of intermixing with each other, despite their difference in specific weight. In nothing, however, is the effects of carbonic acid gas more rapid and certain than in the extinguishing of fire either large or small, and under any circumstances. In its liquid state it has only to be thrown into the flames in comparatively small quantities, when its effects are almost instantaneous, for by its means combustion is simply impossible. In mines it has been found that 1-7th part of carbonic acid added to the most explosive mixture, would render it entirely harmless; yet with this knowledge it is only recently that an attempt has been made to utilise it for extinguishing fires. For that purpose it appears that the carbonic acid gas is compressed in the liquid state, and placed in a receiver of sufficient strength to bear a pressure equal to 250 lbs. to the square inch. It can be drawn by means of pipes, and conveniently packed for removal from place to place, and carried about without the slightest risk of danger. It is taken as a hand grenade, and when the contents are discharged upon a fire the flames are quickly suppressed, for they cannot exist in connection with the carbonic acid gas. In the case of some experiments made a few days since, in a central mining town, a large fire, composed of the most combustible materials that could be obtained, was made, when, on the contents of one of the grenades being thrown upon it, the flames quickly subsided, and were completely extinguished by the addition of two more. Now, carbonic acid gas, as we have before stated, is found in quantities more or less in all mines, but accumulates more extensively in those where coal is the material worked, and it certainly appears feasible that it might be so utilised as to become a preservative in the case of an explosion, than be the danger it is after one has taken place in the shape of choke-damp, from which so many are killed, although they escaped the burning effects of the fire-damp. If carbonic acid gas can accomplish so much in extinguishing fires on the surface, we are of opinion that it might more readily be made to effect the same object underground.

SIXPENNY TELEGRAMS.—On the 1st of October next the new rate for inland telegrams will come into force. The charge will be 6*d.* for 12 words or less, and *ad.* per word afterwards. Every word, including the addresses, will be charged for; but it is anticipated that in the majority of cases the senders of telegrams will need only to have their names telegraphed. The new form (of which a specimen is subjoined) is arranged so that the address of the receiver comes at the head of the telegram, in the space which has hitherto been occupied by the address of both sender and receiver, six lines divided into five spaces each being given for the text of the message and such information as to name and address as the sender thinks necessary to have telegraphed. A special place at the back of the form is devoted to the sender's address, where this is not to be telegraphed, as in such cases it will still be necessary for the department to have the address, in order to be able to communicate with the sender in the event of the telegram failing to be delivered or any charge for portage having to be recovered from him. It also happens sometimes that persons require copies of telegrams they have sent, and in such a case, if the sender has failed to give his name and address, the department would not be able, without vexatious formulas, to comply with the request. In consequence of the change of rate, the following alterations in the mode of counting will be made:—Names of towns and villages will be counted as one word each. Thus "Malvern Wells," which under the former rules was counted as two words, will be only one. Again, figures, which were counted as one word each, will be counted, as in Continental telegrams, at the rate of five figures to a word. Thus, "34, Oxford-street," which under the former rules was counted as five words, will be only three. Initial letters will still be charged for as one word each; but a special exemption has been made in favour of the London district initials. Each set of these will count as one word only. Thus "S.W." will count as one word. The charge for redirection will be 6*d.* for a telegram of any length if the two addresses are within the same town. If the addresses are not in the same town the full rate will be charged. For the purposes of this rule each London district is regarded as a separate town.

GAS SHARES.—The principal business in these shares, according to this evening's report of Messrs. W. L. WERN and Co., of the Stock Exchange and Finch-lane has been:—Brentford New, 162; Buenos Ayres (New), 13*1*/₂; Continental Union, 41*1*/₂; ditto New, 23*1*/₂; Gas Light, A, 232 to 238; ditto H, 153 to 153*1*/₂; Metropolitan of Melbourne, 108*1*/₂ to 108*2*/₃; Monte Video, 18 to 18*1*/₂; Rio de Janeiro, 23*1*/₂; South Metropolitan, A, 277 to 279*1*/₂; ditto, B, 228*1*/₂. Gas stocks flat, particularly home companies. Gas Light and Coke A has had a further fall of 5 per cent.

TRAMWAYS.—The closing prices of this evening, as quoted by Mr. W.M. ABBOTT, of Tokenhouse-yard, are given in tabular form in the Stock and Share List page of the Journal.

Provincial Stock and Share Markets.

CORNISH MINE SHARE MARKET.—Mr. S. J. DAVEY, mine share-dealer, Redruth, writes under date September 17:—Prices of two or three mines have rather improved this week, but business has been very slow. Nothing scarcely doing to-day. Following are prices:—Blue Hills, $\frac{1}{2}$ to 1; Carn Brea, $\frac{3}{2}$ to $\frac{3}{4}$; Cook's Kitchen, 10 to 11; Dolcoath, $\frac{7}{2}$ to $\frac{7}{3}$; East Blue Hills, $\frac{1}{2}$ to $\frac{1}{3}$; East Pool, $\frac{4}{3}$ to 46; Killifreth, 12s. 13s.; New Cook's Kitchen, $\frac{3}{2}$ to $\frac{1}{2}$; New Kitty, $\frac{3}{2}$ to $\frac{1}{2}$; Peden-an-drea, $\frac{1}{2}$ to 1; South Condurrow, $\frac{5}{2}$ to $\frac{6}{5}$; South Crofty, 8 to $\frac{9}{5}$; South Wheal Frances, 9 to 9 $\frac{1}{2}$; Tincroft, $\frac{5}{2}$ to 7; West Bassett, 1 $\frac{1}{2}$ to $\frac{2}{3}$; West Frances, 7 $\frac{1}{2}$ to 8; West Godolphin, 1 to 1 $\frac{1}{2}$; West Kitty, $\frac{6}{5}$ to 7; West Wheal Seton, 5 to 6; Wheal Agar, 19 to 19 $\frac{1}{2}$; Wheal Bassett, 6 to $\frac{6}{5}$; Wheal Grenville, 11 $\frac{1}{2}$ to 11 $\frac{1}{2}$; Wheal Kitty (St. Agnes), $\frac{3}{2}$ to $\frac{1}{2}$; Trevauanance, 2 $\frac{1}{2}$ to 2 $\frac{1}{2}$; Polberro, 1 $\frac{1}{2}$ to 2 $\frac{1}{2}$; Prince Royal, 6s. to 8s.

—Mr. M. W. BAWDEN, Liskeard, writes under date September 17:—The mining market continues dull and inactive, business mostly confined to the settlement. Blue Hills, South Crofty, West Phoenix, and Wheal Grenville being enquired for throughout the week. All metals are firm to-day. Closing quotations subjoined.—Allard United, $\frac{1}{2}$ to $\frac{1}{2}$; Bedford United, $\frac{1}{2}$ to $\frac{1}{2}$; Blue Hills, 18s. to 20s.; Carn Brea, $\frac{3}{2}$ to $\frac{3}{4}$; Cook's Kitchen, 10 $\frac{1}{2}$ to 10 $\frac{1}{2}$; Dolcoath, 7 $\frac{1}{2}$ to 7 $\frac{1}{2}$; Devon Consols, 1 $\frac{1}{2}$ to 2; East Blue Hills, $\frac{1}{2}$ to $\frac{1}{2}$; East Pool, 45 $\frac{1}{2}$ to 46; Gunnislake (Clitters), $\frac{1}{2}$ to $\frac{1}{2}$; Killifreth, 13s. to 14s.; Marks Valley, 2s. to 2s. 6d.; Peden-an-drea United, 1 $\frac{1}{2}$ to 1 $\frac{1}{2}$; Phoenix United Mines, 1 $\frac{1}{2}$ to 1 $\frac{1}{2}$; Prince of Wales, 8s. to 9s.; South Condurrow, $\frac{5}{2}$ to $\frac{6}{5}$; South Crofty, 8s. to 9s.; South Frances, 9 to 9 $\frac{1}{2}$; Tincroft, 6 $\frac{1}{2}$ to $\frac{6}{5}$; Trevaunance Consols, 1 $\frac{1}{2}$ to 2; West Bassett, 2 to 2 $\frac{1}{2}$; West Caradon, 1s. to 1s. 6d.; West Frances, 7 $\frac{1}{2}$ to 8; West Kitty, $\frac{6}{5}$ to 7; West Phoenix, 5 to $\frac{5}{4}$; West Seton, 5 to 5 $\frac{1}{2}$; Wheal Agar, 19 to 19 $\frac{1}{2}$; Wheal Bassett, 6 to $\frac{6}{5}$; Wheal Grenville, 11 $\frac{1}{2}$ to 12; Wheal Kitty, 15s. to 16s.; Wheal Peevor, $\frac{3}{2}$ to $\frac{1}{2}$.

—Messrs. ABBOTT and WICKETT, stock and share brokers, Redruth, write under date September 17:—There has been an enquiry for shares in progressive mines this week, and a good business transacted in Blue Hills, East Blue Hills, Prince Royal, Killifreth, and South Crofty. Dolcoath and East Pool are firm, but transactions have been limited. Closing quotations herewith:—Blue Hills, $\frac{1}{2}$ to $\frac{1}{2}$; Carn Brea, 3 to 3 $\frac{1}{2}$; Cook's Kitchen, 10 to 10 $\frac{1}{2}$; Dolcoath, 7 $\frac{1}{2}$ to 7 $\frac{1}{2}$; Devon Consols, 1 $\frac{1}{2}$ to 2; East Blue Hills, $\frac{1}{2}$ to $\frac{1}{2}$; East Pool, 45 $\frac{1}{2}$ to 46; Gunnislake (Clitters), $\frac{1}{2}$ to $\frac{1}{2}$; Killifreth, 13s. to 14s.; Marks Valley, 2s. to 2s. 6d.; Peden-an-drea United, 1 $\frac{1}{2}$ to 1 $\frac{1}{2}$; Phoenix United Mines, 1 $\frac{1}{2}$ to 1 $\frac{1}{2}$; Prince of Wales, 8s. to 9s.; South Condurrow, $\frac{5}{2}$ to $\frac{6}{5}$; South Crofty, 8s. to 9s.; South Frances, 9 to 9 $\frac{1}{2}$; Tincroft, 6 $\frac{1}{2}$ to $\frac{6}{5}$; Trevaunance Consols, 1 $\frac{1}{2}$ to 2; West Bassett, 2 to 2 $\frac{1}{2}$; West Caradon, 1s. to 1s. 6d.; West Frances, 7 $\frac{1}{2}$ to 8; West Kitty, $\frac{6}{5}$ to 7; West Phoenix, 5 to $\frac{5}{4}$; West Seton, 5 to 5 $\frac{1}{2}$; Wheal Agar, 19 to 19 $\frac{1}{2}$; Wheal Bassett, 6 to $\frac{6}{5}$; Wheal Grenville, 11 $\frac{1}{2}$ to 12; Wheal Kitty, 15s. to 16s.; Wheal Peevor, $\frac{3}{2}$ to $\frac{1}{2}$.

—Mr. JOHN CARTER, mine share-dealer, Camborne, writes under date September 17:—The Cornish Share Market continues steady, but with little business doing. South Crofty has improved to 6, 6 $\frac{1}{2}$, and Wheal Grenville to 11 $\frac{1}{2}$, 11 $\frac{1}{2}$. Closing prices are as under:—Blue Hills, 17s. 6d. to 20s.; Carn Brea, 3 $\frac{1}{2}$ to 4 $\frac{1}{2}$; Cook's Kitchen, 10 to 10 $\frac{1}{2}$; Dolcoath, 7 $\frac{1}{2}$ to 7 $\frac{1}{2}$; East Blue Hills, 1 $\frac{1}{2}$ to 1 $\frac{1}{2}$; East Pool, 45 $\frac{1}{2}$ to 46 $\frac{1}{2}$; Killifreth, 13s. to 13s. 6d.; New Kitty, $\frac{1}{2}$ to 1; Peden-an-drea, $\frac{1}{2}$ to 1; Prince Royal, 8s. to 9s.; South Condurrow, 5 to 6; South Crofty, 6 to $\frac{6}{5}$; South Frances, 9 to 9 $\frac{1}{2}$; Tincroft, 6 $\frac{1}{2}$ to 7; West Bassett, 2 to 2 $\frac{1}{2}$; West Kitty, $\frac{6}{5}$ to 7; West Frances, 7 $\frac{1}{2}$ to 8; West Seton, 5 to 5 $\frac{1}{2}$; Wheal Agar, 19 to 19 $\frac{1}{2}$; Wheal Bassett, 6 to $\frac{6}{5}$; Wheal Grenville, 11 $\frac{1}{2}$ to 12; Wheal Kitty, 15s. to 16s.; Wheal Peevor, $\frac{3}{2}$ to $\frac{1}{2}$.

MANCHESTER.—Messrs. JOSEPH R. and W. P. BAINES, stock and share brokers, Queen's Chambers, Market-street, write under date September 17:—Owing to Saturday again being a "closed day," there was only Friday's business prior to the beginning of the settlement, "carrying over" day being Monday. The present time has furnished no abnormal activity to counteract the usual indisposition to act so close on the account, and the attention required by the arrangement of accounts, of course interferes with the entering into fresh transactions during that period, which only expire yesterday, has not left much unfettered time during the whole time under notice. Taking these untoward circumstances into consideration, a moderate number of dealings are reported. Values for home rails are very little altered on the week, and what alterations there are show in number unfavourably, the ease having been contributed to by the week's traffic returns. The traffics are in nearly all cases decreasing, some more and some less, of course; but, viewed as a whole, by no means uphold the theory that trade is showing signs of an improvement; but that such improvement may be expected in the near future is very confidently held by not a few individuals. Foreign Government Loans, &c., show a few changes in quotations, but not sufficiently on either side to evince decided leaning in either direction.—Higher: Argentine Public Works, 1; ditto, Hard Dollar Bonds, 1; Mexican Three per Cent. (1851), $\frac{1}{2}$; Russian (1873), $\frac{1}{2}$; and Turks (Group 4), $\frac{1}{2}$; Lower: Egypt United, $\frac{1}{2}$ to $\frac{1}{2}$; ditto, Daira Sanieh, $\frac{1}{2}$; Peruvian Six per Cent. (1870), $\frac{1}{2}$; ditto, Five per Cent. (1872), $\frac{1}{2}$; Spanish, $\frac{1}{2}$; and Portuguese, $\frac{1}{2}$. Consols are unaltered. Colonial Government Bonds, &c., show very few changes, but a favourable majority.—Higher: New Zealand Five per Cent. Consols, 1; Cape of Good Hope Four per Cent. Bonds and Inscribed Stock, $\frac{1}{2}$ each.—Lower: South Australian Four per Cent. Inscribed, $\frac{1}{2}$; Corporation Stocks, &c.: A rise of 1 in Bradford Four-and-Quarter per Cent., and $\frac{1}{2}$ in Liverpool Three-and-Half per Cent., comprise all the movements in quotations, and the amount of stock changing hands is small. Business in the minor markets is but meagre, with rather an adverse majority of changes in values, viewing the several classes altogether.

BANKS maintain their position as being foremost in dealings, and though quotations are altered in only a few instances the balance of change is favourable.—Higher: Bank of Liverpool, $\frac{1}{2}$; Manchester and County, $\frac{1}{2}$; Manchester and Salford, $\frac{1}{2}$; and Parr's, $\frac{1}{2}$.—Lower: Adelphi, $\frac{1}{2}$; and Liverpool Commercial, $\frac{1}{2}$.

INSURANCE shares have changed hands to a small extent, and numerically the alterations in prices are distinctly adverse, but the amount of change is in no instance very noteworthy.

COAL, IRON, &c., AND MINING quiet, and lower in the majority of cases, where values are revised.—Higher: Sheepbridge Coal, &c., $\frac{1}{2}$; Patent Nut and Bolt, $\frac{1}{2}$; John Brown's, $\frac{1}{2}$ to $\frac{1}{2}$.—Lower: Great Laxey Lead, $\frac{1}{2}$; Rio Tinto, $\frac{1}{2}$; Parkgate Iron, $\frac{1}{2}$ to $\frac{1}{2}$; Palmer's Shipbuilding A, $\frac{1}{2}$; Tharsis Sulphur, &c., $\frac{1}{2}$; and Ebbo Vale, $\frac{1}{2}$ to $\frac{1}{2}$.

COTTON SPINNING co. shares present no feature of interest. The throwing open of some of the mills to give operatives an opportunity of commanding work on employers' terms has not been much availed of by the workpeople, and where it has been in some cases has been roughly used by crowds of strikers. The market for these shares, therefore, does not benefit, and prices being very rarely tested are mostly nominal.

TELEGRAPHES all lower where altered, Eastern being foremost with fall of $\frac{1}{2}$.

TELEGRAPHES about steady. Oriental $\frac{1}{2}$ to $\frac{1}{2}$; higher, United $\frac{1}{2}$ lower.

MISCELLANEOUS.—Suez Canal, $\frac{1}{2}$; Hudson Bay, $\frac{1}{2}$; Manchester Carriage, A, $\frac{1}{2}$ to $\frac{1}{2}$; and Anglo-American Brush Electric, $\frac{1}{2}$ higher. Gas Light and Coke A Ordinary 2; West Indian and Pacific Steam, $\frac{1}{2}$, and Liverpool Trams, &c., $\frac{1}{2}$ lower.

RAILWAYS.—Home rails rather easier on poor traffics generally, but decrease very slight on the whole. South Easterns went rather better on their August statement. North British lower on their dividends at rate of 2 per cent., with 300,000 over, but they are slightly better than lowest points reached on the declaration. In Canadians trusts receive some impetus on tidings that they were to benefit to the extent of 100,000, by the sale of North Shore to Canadian Pacific, but as this has been criticised in the Press values of their issues have given way. They announced another big decrease of traffic this week ag. in. Americans have fluctuated again, but on balance for the week are rather higher. Mexican Railways have moved downwards, but recovered somewhat from lowe.

SCOTCH MINING AND INDUSTRIAL COMPANIES

SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, stockbroker and ironbroker under date September 17 writes:—During the past week the market has been quiet, and prices are generally lower. The weather has been rather unfavourable for agricultural interests, but the prospects of trade improving are still considered favourable. The money market is unaltered.

In shares of coal, iron, and steel companies prices are easier. Bull's Iron, 6s. 6d. to 7s.; Ebbo Vale, 5 $\frac{1}{2}$ to 5 $\frac{1}{2}$; Lydney and Wigpool Iron, 30s.; Rhymney, 27s. 6d. to 28s. 6d.; and West Cumberland, 5 s. 6d. to 7s. 6d.

In shares of copper concerns prices are lower, owing to the decline in the market for the metal. Tharsis have declined from 9s. to 9s. Mason and Barrys and Rio Tinto also lower. Arizonas, 10s. to 11s.; Bratsberg, 9s. 6d.; Huntingtons, 5s. 6d.; and Russia, 5s. 6d.

In shares of home mines there is no great alteration to notice. The agents' report of North Busy states the mine is improving, and they expect to reach the junction with the tin lode within two months. The tin market has improved, which should help tin shares. Holywell District offered. East Blue Hills are at 20s. to 25s.; Ecton, 18s. 6d. to 21s. 2d.; Frongoch, 5s. to 7s. 6d.; Gooderstone, 5s.; Great Holme, 10s. 6d. to 12s. 6d.; Lindalith, 4s. 6d. to 4s. 9d.; New Tredegar, 5s.; Parry's, 5d.; Shepherds United, 2s. to 3s.; Trengorestone, 1s. to 2s.; Wrexham, 25s. to 27s.; West Godolphin, 17s. 6d. to 22s. 6d.; and Yealand Consols, 19s. 6d.

In shares of gold and silver mines the principal alteration is an advance in Montanas from 45s. to 53s. 6d. on the report announcing a dividend at 15 per cent. for quarter; the net profits for last half-year were 39 $\frac{1}{2}$ %, and the manager reports the mine never looked better. If Montanas can make such large profits with ore at 22s. per ton, the Colorado United should be worth attention as its ore runs up to \$1500 per ton; the ore has been struck rich in this mine, and is steadily improving. Since the new manager took it in hand it has been worked more vigorously. The meeting of the California Company will be on September 22. Their report shows a nominal loss on last year's working, but the workings of the mine have latterly improved greatly. With some further capital to pay off the vendor, trade liabilities, and further develop the mines, the company should pay very well. Almada and Trito are at 2s. 6d.; Balkis, 6s. 1d.; Callao Bis, 3s. 9d. to 5s.; Don Pedro, 2s. 6d.; Gold of Canada, 5s.; Indian Consolidated, 3s. 6d. to 4s. 6d.; Kohinoor, 2s. to 3s.; La Trinidad, 7s. 6d. to 7s. 6d.; Organos, 8s. 6d. to 11s. 6d.; Orta, 18s. 6d. to 20s.; and Victoria, 3s. 6d. to 4s. 6d.

In shares of miscellaneous companies prices are generally lower, especially in oil field companies. Home Mines Trust, 14s. to 16s.; Lawes' Chemicals, 5s. ex div.; Nobel's Explosives, 15 $\frac{1}{2}$ to 15 $\frac{1}{2}$.

EDINBURGH.—Messrs. THOMAS MILLER and SONS, stock and share brokers, Princes-street, write under date September 16:—

Business has been dull in nearly all descriptions of stocks. Scotch railways show little change, with the exception of North British, which has declined from 91 $\frac{1}{2}$ to 89 $\frac{1}{2}$. In banks Union has advanced from 20s. to 21. Prairie Cattle shares are 1s. 6d. and Swan Cattle shares 1s. 3d. lower. Hudson's Bay have risen from 18 $\frac{1}{2}$ to 18 $\frac{1}{2}$. In oil shares Burntisland have gone down from 18 $\frac{1}{2}$ to 18, Lanark from 48s. to 45s. 6d. Broxburn have risen from 25 to 25 $\frac{1}{2}$, Pumperston from 10 to 10 1-16th. In insurance Mercantile have risen from 31 $\frac{1}{2}$ to 31 9-16th, Scottish Provincial from 14 $\frac{1}{2}$ to 14 $\frac{1}{2}$, Scottish Union A are 6d. down.

THE AMERICAN METAL MARKET.

Messrs. MATHEW and WEBB, ore and bullion brokers, Denver, Colorado, write under date September 2:—The steady improvement in general trade that has been noticeable for the past few weeks has come to a temporary halt, and the record of the one just past is fairly good, but by no means brilliant. Provisions have been barely steady, breadstuffs in light demand for export, and dry goods firm and fairly active. Petroleum has been a trifle higher, but unsettled under reports of gushing new wells and the counter influence of the export figures. Money continues to be plenty, with only 1 $\frac{1}{2}$ per cent. paid at New York on call. The surplus reserve in the New York banks now stands at \$58,341,745, a material reduction, and the leading clearing-houses show a net increase of 18 per cent. over the business of this time last year.

SILVER has again declined.

COPPER still remains in its condition of suspense, but with some solution of the present attitude very imminent. Sales at New York reach 700,000 lbs., being about half Lake at 11 c. and 11 $\frac{1}{2}$ c., and the balance less-favoured brands at 10 $\frac{1}{2}$ c. up to 11c. The English market has ruled even lower, and has scarcely been steady at 42s. 15s., with best selected quiet at 46s., and very firm. A very interesting report of the condition of the Calumet and Hecla Mine has been made, by which it appears that the company have over 12 years' work in sight, and that they are to-day making over 4000 tons of ingot per annum more than they were last year, and with no large increase of expense. Should the Tamarack Mine shaft prove the continuance of the Calumet and Hecla vein throughout the entire length of the latter's property it will be 60 years before the Calumet and Hecla can possibly peter out. Their present output is over 50,000,000 lbs. per annum. Spanish statistics show the exports of pyrites thus far this year to have been 40 per cent. over that of last year.

LEAD has been very quiet throughout the week, with a slight inclination to soften in price from its previous ruling, but the movement is looked upon as a fluctuation merely, and not the commencement of any decline, and in fact there is nowhere any evidence of any large stock which could cause a decline. The first shipments of a possible 2000 tons of Richmond to New York has caused some timidity among the buyers, but none of this lead can arrive there much before November or December, and cannot consequently be of the least use for the fall demand, which is over by the middle of November, and, therefore, it cannot disturb our present market. The sales of the week reached about 1000 tons—a very light distribution for this time of the year—at 84 $\frac{1}{2}$ s. and 84 $\frac{1}{2}$ s. St. Louis and Chicago, and 84 $\frac{1}{2}$ s. New York. There was considerable talk about lead bringing 84 $\frac{1}{2}$ s. at St. Louis, but it was only in very small quantities. Holders at the West found any large sales at that figure impossible. On the whole the lead situation still remains very strong, and its apparent offish flurry must soon be checked by the demand, for the Horn Silver Company is producing nothing, and that is a loss of at least 1000 tons per month, which, so far as we can learn, is not being made up in any other locality, and during no year since 1870 has our annual consumption been 12,000 tons less than our production. It is, therefore, logical and fair to assume that under those circumstances the figures of 1885 will show a shortage which must be made up either from out of the Richmond surplus or by importation. The present London price permits lead to be laid down at New York, duty paid, at 4 $\frac{1}{2}$ cents.

VENTILATION OF MINES.

On Saturday last the magistrates sitting at Douglas, in the Isle of Man, were called upon to decide two points widely different in character, and yet of no ordinary interest to those connected with mines. One was with respect to the ventilation of mines, and the other as to the jurisdiction of the magistrates in the island. It appears from the report of the proceedings before

THE GOLD AND DIAMOND FIELDS OF SOUTH AFRICA—No. XX.

BY THOMAS COLLINGWOOD KITTO, M.E.

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Soon after I left the house of the farmer I came to one of those wayside stores which appeared to sell everything, and which are always surrounded by gangs of Kaffirs of the lowest type as well white blear-eyed "lushingtons," who will do anything, from reading prayers to manslaughter, for a drain of bad grog; these were the individuals who knew where to find gold in abundance. "I can assure you, Sir," said a greasy individual, "that about 6 miles from here, on a farm belonging to the landlord here (pointing to the landlord), I have seen gold sticking out of big quartz reefs as thick as currants in a bun, and big lumps are often found on the surface." "Then why on earth don't you get some?" said I. "You certainly look as if a little would do you no harm." "You don't understand," said he. "We want capital and machinery to work it; the gold is there all right, but we have nothing to extract it with." The landlord stood close by, and confirmed all said, and was so well pleased with his description of the gold fields of the future that he offered to stand drinks all around. At the sound of liquor and stand treat lots of loathsome wretches, both black and white, seemed to spring out of the ground, and their insatiable longing after the soul-and-body destroying "Cape smoke" (a dreadful kind of brandy, which invariably turns people mad) was pitiable to witness. They all drank out of one glass, and as each swallowed the liquid fire the remainder stretched out their necks in the direction of the person who was serving like a flock of geese at a passing stranger. These were the individuals who talked of gold mines in this part of the Transvaal, and I regret to say they often deceived persons who have no knowledge of such matters.

On my arrival at Bloemhoff I met a great many apparently well-to-do people, who were very enthusiastic about the Transvaal as a gold-producing country. They all assured me that the country was teeming with gold, and the various reasons often assigned for their assertions were very amusing. One person "had a farm on which there was scarcely any grass, and it was covered with stones, which were standing on their edges, and consequently he was sure it was rich for gold and other minerals." I have often heard the same reason advanced for the same cause in other parts of the world, and I have no doubt many other mining men have heard the same. I did not leave Bloemhoff without seeing gold. A person took me partly into his confidence—"Come in here, Mr. Kitto, and I will show you something that will do your heart good," said he, and he took me into his bed-room, unlocked a desk, and showed me three beautiful nuggets of gold. "This," said he, "came from a place not 3 miles from here, and there is plenty of it; we took out a lot more of the same sort, but my partner has taken it to England with him, where he has gone to form a company to develop it." "But surely," said I, "you do not intend to let such a splendid thing slip out of your hands; why do not you work it yourselves and get rich?" "Ah, no!" said he, "we cannot bear the excitement of gold digging, we would rather retire with a lump sum, and leave the opening of the gold fields to those who understand it better." "No doubt you would," said I, rather brusquely, "for I am quite sure no gold will ever be found within 20 miles of this house, and my opinion is that those nuggets you have just shown me are from the neighbourhood of Ballarat." The man did not get in a rage, but shuffled very uncomfortably, looked very silly, and stammered out, "Well, if it is a plant, I don't know anything about it." I afterwards ascertained that those gold nuggets were imported from Australia about 10 years before, and I am quite certain that when unscrupulous parties first commenced blowing the Transvaal gold bubble I saw the same nuggets doing duty in Kimberley as a new discovery. I immediately sent full particulars of this incident to three colonial papers which professed to guide the public, but, as they did not publish them, I consider they were culpable. After leaving Bloemhoff I heard no more of gold discoveries until I reached Rietfontein, where we camped for the night; here there were more thirsty crowds, all ready to point out a gold mine for a glass of Cape Smoke. In the evening I went around to the numerous camp fires, and listened to glowing accounts of the wonderful deposits of gold not far away; but the wretches were lean, ragged, and hungry, and their looks belied them. I found everywhere amongst the Kaffirs and Dutch two stereotyped yarns relative to the discovery of gold; one was that "a travelling jeweller, seeing some yellow lumps that a child was playing with, melted it down in the fire and took it away with him;" the other story was that "Mrs. Squires and Mrs. McLachlan went out for a picnic, and one of them dug up the gold with her parasol." I sometimes found that when the Kaffirs had been drinking, they would come to blows as to which of the ladies actually dug up the gold. It was all a lie; there was not the least sign of the precious metal anywhere in the neighbourhood, but they had rehearsed it so often that they spoke as if they believed it. The geological formation in the neighbourhood of Rietfontein is the ordinary trap rock which I have so often described, and a few lacustrine deposits, most of which are covered with lime tufa, and persons are just as likely to find "Holloway's pills" in it as gold. From this place northward I did not pass a single day but that some person offered to show me a gold mine, and I invariably accompanied them, but could not find a trace of gold, or a geological formation likely to produce any, until we passed north of Wonderfontein.

At Wonderfontein I explored two beautiful caves; the one to the west of the high road is very interesting. The entrance, which was overgrown with trees, was about 18 ft. vertically, then down an incline over stuff which had caved in from the surface. At the bottom galleries branched off in various directions, and frequently opened out into small chambers, from which other galleries again branched off. Many parts of this cave resembled the workings of old tributaries who follow small metalliferous branches in all their ramifications. At the extreme end of the longest gallery a rapid and beautiful stream (almost a river) of clear water crosses the gallery at right angles; this stream was full of eyeless fish from 4 to 5 or 6 in. long. In several places we came across a colony of bats hanging on to the roof, but they were not disturbed by the noise we made or the light of our torches. The rocks in the neighbourhood of this cave are green-stone, basalt, and lime. Near the top of the hill, north of Wonderfontein, and about 2 miles east of the high road to Pretoria, there is another large cave, but very different in appearance and shape to the first; this is a large subterranean cavern as large as a cathedral, and not unlike one. Stalactites and stalagmites extend from roof to floor and floor to roof, like huge pillars. In the north-west end of the cave there is a beautiful collection of stalactites and stalagmites which some person has very properly named the pulpit. It looks like a pulpit of the most elaborate description, and is the most beautiful natural production of the kind that I have ever seen. Toward the north side of the cave there are some 50 or 60 small columns, varying from 5 to 9 in. in diameter, which have been formed in such perfect line that they have been named the organ; there were formerly a great many more of these regular columns, but some Vandal has broken them off; on being struck lightly with a key or any small piece of metal these columns give out a beautiful musical sound, which has a very peculiar effect as it echos and re-echos

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through the dark cavern. I did not explore this beautiful place a tithe as much as I could have wished, but as the party separated and the lights of the torches fell on the hundreds of grotesque forms which lined the cave I thought they looked like a petrified congregation patiently waiting to be reanimated. I have been grieved to read accounts from persons who ought to know better, stating that those beautiful caves are the result of manual labour, that they were made in search of gold, and that the Queen of Sheba was mixed up in the enterprise. Such an idea seems to me worthy only of an inmate of Colney Hatch, or a fallen missionary. After leaving Wonderfontein I noticed that the country became more ferruginous, but no sign of gold, although there was plenty of quartz scattered over the surface. About a mile south of Monkey river I saw several large quartz reefs running parallel to the line of bedding of a run of micaceous clay-slate, but I could not discover a trace of gold, and this kind of country continued right into Pretoria.

RECENT ABANDONED MINES.

SOUTH PENSTRUTHAL.

CONTRIBUTED BY MR. EDWARD ASHMEAD, THE SECRETARY.

Prior to the establishment of the *Mining Journal* in 1835, and Mr. Robert Hunt's Mineral Statistics of the United Kingdom, commencing in 1848, we have little beyond tradition to resort to for information concerning those extensive mines which made Cornwall for a long time the greatest copper and tin producing portion of the globe. Situated in the Gwennap district, Penstruthal Mine (the present South Penstruthal), about 60 years ago, took a front rank among a group of mines, all of them more or less remarkable for their great riches. Nearest to it on the east was Tresavean. In one working this mine gave 459,000*l.* profit to its adventurers. Around and at no great distance north and west were—Wheal Buller, Copper Hill, Wheal Bassett, North Bassett, West Bassett, and South Frances; with the Consolidated Mines, the United Mines, and others to the north and east. Of the Consolidated Mines we hear that abandoned by one company, and opened again in 1819 under the management of Mr. John Taylor; a profit of about 600,000*l.* was made during the 21 years lease expiring in 1840. South Penstruthal, then known without the prefix, is reported to have been in its best days between the years 1827 and 1834, when Mr. Francis Daniel is said to have extracted copper ore of a high percentage to the value of over half a million sterling. How much of this was returned in dividends to the adventurers is not known, but it has many times been stated in print that 60,000*l.* profit was realised in its most productive year. The mineral deposit extended the entire length of the sett, and four shafts were sunk on the lode, the copper being for the most part extracted between the adit and the 50 fm. level. Between the old workings and the time Penstruthal was taken in hand by the present shareholders it was for some period reworked by a local body of adventurers, of which the late Mr. John Little was one, and the present writer has heard Mr. Little express his regret that his company suspended, and his belief that in depth the mine would become as successful as ever. When Mr. Little's company gave up a very large body of mundic was known to exist at the bottom of the mine, beneath which the proprietors did not penetrate, no doubt from insufficient machinery and want of funds. In 1872 a company with a capital of 100,000*l.* was formed—the Penstruthal Consols Tin and Copper Mining Company (Limited). The grant of this company was extensive, and included many lodes, among others the old Penstruthal lode, but no mining was done by them on that lode. All their work was confined to the Highburrow tin lode, some 250 fms. to the north, from which they extracted a good quantity of tin from the upper levels. In 1879 this company voluntarily wound-up.

In 1880 Mr. Waddington, to whom Cornwall is much indebted, and to whose energy and perseverance Wheal Agar owes its present success, put forward a plan for dividing the sett, and reworking the Penstruthal lode by a Cost-book company. The whole of the 6000 shares were quickly applied for, and the Cost-book opened on the 25th February, 1880. A 60-in. cylinder engine was erected, and started on the 7th September in the same year. This engine has done duty unexceptionally well, not only in draining the mine and its old workings, but in carrying the shafts, Walton's engine-shaft and flat-rod shaft, from 70 and 130 fms. respectively, the depths as left by the old workers, to 126 and 170 fms. deep. The work of the company was greatly retarded, and time and money expended beyond the first estimate, in squaring and timbering both shafts to 12 ft. by 7 ft. within the timber from surface the whole way down, it being impossible to work the mine in the condition the shafts were left by the old workers. The main object, and one the company had in view from the first, was to sink the shafts with all speed, and especially the deep or flat-rod shaft, penetrating beneath the mundic into the body of copper expected to be met. The sinking was resumed at each shaft a little to the side of the lode, short cross-cuts being put out at the levels. To hasten the sinking boring machinery was used in flat-rod shaft, the ground here being harder than in the engine-shaft. Sinking by machinery was the suggestion of Mr. Waddington, and South Penstruthal may claim to have been one of the first Cornish mines adopting it, and to have proved that time and money can be equally as well saved in sinking as in driving by machine-power.

The following work has been done by the present company. Walton's engine-shaft resumed sinking below the 70 fathom level (the depth it was left by the old workers) in December, 1881, and between that and December, 1884, when it was suspended, was sunk 56 fms., or to 126 fms. below adit. The lode was seen at the following depths—the 83, 100, 114, and 126 fms. respectively. At the two first-named levels its composition was chlorite, quartz, mundic, and patches of black oxide of copper. At the 114 it improved, being thickly impregnated with rich copper ore, with good stones of tin in the capel part of the lode. At the 126 the appearance was still better, and a special report spoke of it as follows—"The vein is standing south of the shaft, and proved to be at the bottom 30 ft. wide. In the centre of the lode (15 ft.) a level is driven west 7 fms. on the leader part 6 ft. wide, composed of mundic, sugar spar, prian, and fluor spar, in which at times good stones of copper ore are found. The matrix of the lode is very promising for producing large bodies of ore. On the south part of the said vein a level has been driven east on the leader part; it is of a cinder or honeycomb form, yielding some rich stones of ore. The capel on the north produces some rich stones of tin." The sinking of this shaft was not prosecuted further, as the ground below could be quicker and more economically proved by continuing the 170 level west from flat-rod shaft, and driving towards and below the engine-shaft. The flat-rod shaft, after being cleared and cut down to the 130 fm. level, recommended sinking by this company in June, 1882; in August, 1883, a 150 fm. level was reached, lode intersected, and driven on 3 fms. east and 30 fms. west, the shaft at the same time continuing to sink, until in June, 1884, it was 170 fms. under adit, total sinking of 40 fms. in two years. At points of intersection the lode at the levels was found to be about 8 to 10 ft. wide. The composition at the 130 was quartz and

mundic, and at the 170, quartz, capel, fluor-spar, and mundic, with stones of yellow copper ore and tin intermixed. More than once during the sinking, droppers containing very rich yellow copper ore were met with in the country or rock crossing the shaft, and apparently dropping into the lode; but these do not seem to have benefited the lode as far as proved. At the 170 a level was put out west, and, up to the stopping of the mine, extended 59 fathoms, i.e., 3 fathoms beyond and 44 fathoms below the engine-shaft. Contrary to expectations, a body of ore was not met with under this shaft, and although the lode was large in the end, strongly mixed with sulphuric mundic, it was of no commercial value for the mineral. Seeing that greater depth must be attained before a profitable mine could be opened, and, therefore, further calls upon the resources of the shareholders would be the consequence, with reluctance the mine was suspended. The mine work has been most effectually carried out by the managing agent, Capt. Stephen Davey, and upon his retiring for another sphere of labour, about a year ago, he was succeeded by his son, Capt. Thomas Davey, who before then had the charge of the boring machinery. The shareholders have laid out on and in the mine during the four and a half years' working a sum of 28,640*l.* The cost of the sett and of constructing the company came to merely 600*l.*, the remainder of the amount has been expended entirely in labour, machinery, and materials. For this a 60 in. cylinder engine, three boilers, and a whim engine and one boiler were purchased and erected, besides the necessary machinery and appliances for boring. Shafts have been sunk 94 fathoms, and levels and cross-cuts driven over 300 fathoms; in addition to this the work of cutting down the shafts (over 200 fathoms) of the old workings. It may naturally be considered that inasmuch as the present shareholders in the expenditure of their money met with non-success, the mine is in consequence a failure; but this by no means follows. Mining over and over again affords instances of lodes being worked, and reworked, and worked again, at one time at a great profit, at another at an utter loss, and then at a great profit again, especially in Cornwall. It has been the experience of many of the large mines around South Penstruthal. From time to time the mine has been seen by other mineral agents besides its own. Less than a year ago Capt. Hodge, of Wheal Grenville, inspected the mine, and in his report comparing South Penstruthal with Tresavean, he said—"Tresavean lies to the east of your mine, if my memory serves me right they had a good shallow bunch of ore; I cannot say the exact depth, but I believe the 170 fathom level struck a fresh shoot, from which they gave large profits. Your mine (South Penstruthal) barely compares in depth with Tresavean." And Capt. Hodge concludes his report with the words—"Although the mine is poor to-day yet it may turn rich at any time, as your chances are very good indeed." It is a reasonable conclusion to arrive at that as South Penstruthal at the 170, from being on higher ground, does not compare with Tresavean at the same depth, had sinking been continued to a like depth profitable results would have been the result. In many other respects the two mines have much in common, depth for depth. Capt. Trevena, of Wheal Bassett, has inspected the mine twice; he also speaks of the importance of depth and says—"All our rich copper mines failed to produce in paying quantities below the 70 or 80 fathom levels, and until they were sunk through an unproductive strata some 70 or 80 fathoms the lode was comparatively poor, then they began to improve and made some of our richest mines, I look upon Penstruthal as undergoing a similar change." There is little doubt but this is so, and that in another level or two the change would be found. At the bottom of the mine mundic is still a conspicuous constituent of the lode, and has not been overcome. "Mundic rides a good horse," is the mining saying, and although the rider in South Penstruthal is of uncommon weight there is no reason why the horse should not yet come to the front and win. It is of great importance to notice in the report that tin is as much noticed as copper as a component part of the lode, leading to the opinion that in sinking tin would become the prevailing mineral. It is no unusual thing in this district for copper to give place to tin. After it had been decided to stop the mine a well-informed mining engineer of West Cornwall wrote to a large shareholder as follows:—"I am very sorry to hear Penstruthal is likely to stop. It is a great pity the mine was not sunk another 30 fms. and operations confined solely to doing this; there is no doubt you would have reached the change from the copper into the tin-bearing strata, and then have had a great mine." South Penstruthal is a mine that never ought to be allowed long to remain idle. Its district, its depth, and the outlay already expended upon it should ensure its being again worked, as soon as the times brighten, for bad times and not a bad mine has more than anything else caused the suspension. The engine should be purchased and not allowed to be displaced, then with the pitwork replaced, a replenished purse, and perseverance, South Penstruthal would become the prize of the future.

COMMERCIAL FAILURES.

The number of failures in England and Wales gazetted during the week ending Saturday, September 12, was 89. The number in the corresponding week of last year was 58, showing an increase of 31, being a net increase in 1885, to date, of 500.

The failures were distributed amongst the following trades, and, for comparison, we give the number in each in the corresponding weeks in 1883 and 1884:—

	1883.	1884.	1883.
Building trades.....	12	5	19
Chemists and druggists	—	—	4
Coal and mining trades	4	3	4
Corn, cattle, and seed trades	6	2	2
Drapery, silk, and woollen trades	9	8	16
Earthenware trades	—	—	3
Farmers	4	2	4
Furniture and upholstery trades ..	2	3	2
Grocery and provision trades	17	7	33
Hardware and metal trades	1	3	2
Iron and steel trades	2	2	3
Jewellery and fancy trades	5	6	7
Leather and coach trades	4	1	5
Merchants, brokers, and agents ..	7	2	14
Printing and stationery trades	—	—	4
Wine, spirit, and beer trades	7	5	21
Miscellaneous.....	9	9	15
Totals for England and Wales	89	58	158
Scotland	22	21	25
Ireland	1	3	4

Totals for United Kingdom ... 112 84 187

The number of Bills of Sale published in England and Wales for the week ending September 12 was 236. The number in the corresponding week of last year was 270, showing a decrease of 34, being a net increase in 1885, to date, of 491. The number published in Ireland for the same week was 12. The number in the corresponding week of last year was 9, showing an increase of 3, being a net increase in 1885, to date, of 17.—*Kemp's Mercantile Gazette*.

A notice has been posted at the Darlington Steel and Iron Company's Works, to the effect that 24 hours' notice will be given the men to terminate their engagements. The notice, which expired yesterday, will throw 1000 men out of employment.

GOLD MINING IN PORTUGAL, AND THE GREAT METALLIFEROUS ZONE IN THE DISTRICT OF OPORTO.

Having already called the attention of your readers to this subject in some remarks connected with gold mining in Spain, which you were good enough to insert, I now venture to give a short account of the great mining industry, which within the last 15 years has gradually developed itself near Oporto, and which bids fair to constitute this district one of the most important centres of mining enterprise in the kingdom. It is an extraordinary fact that mining pursuits at all countries seem to travel in certain well-defined grooves; some districts are well established as paying fields of labour, others discovered by accident are suddenly brought into notice, overrun by adventurers, and, perhaps, as quickly abandoned, after an ephemeral existence, for more lucrative spots, or from that love of change inherent in the mining pioneer, an essentially restless being, who seldom settles down to the drudgery of real, steady work. This has been observed in Australia, California, in fact, in all those newly-discovered regions which have been the principal scenes in the modern search for the precious metals. Perhaps distance lends enchantment, or enhances value, for the countries of the Old World at our very doors have been virtually overlooked, history itself ignored, and ground once alive with the mining energy of the Phoenicians, Carthaginians, and Romans, has been passed by as barely worth a thought, until some sudden discovery has again called attention to the locality, the sound of the pick is again heard, companies are formed, and what perhaps was either a barren waste or wild, uncultivated ground, again swarms with life, and becomes a great centre of modern skill and industry. There is no district to which these remarks may be more aptly applied than that which lies to the east of Oporto, and which even now is almost a sealed book to the bulk of the inhabitants of that great commercial city. Ancient history points unmistakably to the great mineral wealth of the peninsula, especially in the precious metals. We read, amidst much exaggeration, authentic accounts of the treasures annually shipped to Carthage and Rome, of vessels laden with silver from the south of Spain, and of fabulous amounts of gold, judged by our modern standard, extracted from the quartz reefs and alluvial deposits scattered over the country. It is well known that this Oporto district was one of the principal sources of wealth to the Romans, for in the time of Caesar the mines were worked on a tremendous scale, and were only afterwards abandoned through inability to work below drainage level or by their legions being driven out of the country. Be this as it may no record exists of any work since about the Christian era, and the only remains of this once important mining industry are the great open workings and shafts which even time cannot obliterate.

The geological formation of that portion of the district which constitutes the mineral zone is the palaeozoic or earliest formations of the secondary period, which embraces the carboniferous, silurian, cambrian, and laurentian systems. The minerals found are coal, iron, gold, silver, lead, and antimony. The gold is found either in the great quartz veins, or in connection with the antimony. The silver is also in the quartz or associated with galena. Both metals are found to yield a more than average percentage, large shipments of quartz having produced over the ounce of gold per ton, whilst the average yield of argentiferous galena is from 130 to 150 ozs. of silver per ton of ore. The tersulphide of antimony is considered very high class. It is well known in the market, and when, as in the case of the Corgo Mine, it is largely associated with gold, its value is very considerably increased. Although at the present time antimony is the principal mineral sought for, yet by the ancients it was merely mined for the gold connected with it, the metal itself being at that time of no value except as a pigment. The miners are pretty evenly distributed between the various systems, some of the principal metallic veins being in contact between the silurian and cambrian, whilst the important workings at Sobrido are between the silurian and carboniferous. The whole district is one continuous run of workings. The veins are true fissures equaling any in extent, the mountain ranges are completely honeycombed, presenting a series of open cuttings, shafts, and levels extending over a distance of 15 miles on the north bank of the River Douro. Each mine or group of mines was drained by a main adit, consequently the depth of the respective workings depends entirely upon the contour of the ground, and the depth at which the levels could be brought in. These adits are in the main thoroughly sound, but completely choked with alluvial deposit, whilst the old stope having run in through decay of timber, renders any future mining above these levels utterly impossible. It may be that this, coupled with the fact that until very recently antimony was not a metal in any great demand, has been one cause of the district being so thoroughly overlooked. The earliest modern notice of these mines is found in Murray's Guide to Portugal, which specially calls attention to the celebrated mines of Vallongo as being well worth a visit from Oporto. They are still working, but not on a scale commensurate with their importance. They are the first of the series of old mines, which start from the town of Vallongo, in the direction of Melres, and are from their position and difficulties of drainage in almost virgin ground. The antimony is very clean, but in consequence of their shallow depth, about 30 fathoms, gold in paying quantities has not yet been met with. The mines are in the hands of a syndicate who have recently erected new steam pumping machinery at very considerable cost, and although antimony is for the moment very low, yet a very fair profit is made considering the limited nature of the operations.

It would be impossible in the space at command to enumerate the number of mines recently started, or the companies already registered, those well known can only be touched upon; but there is one very important fact, that throughout the district there is hardly a single property which with ordinary prudence and economy of management does not carry within itself the germs of success. The coal mines of St. Pedro do Corvo are justly celebrated, they supply Oporto with nearly all its anthracite coal. The mines of Covello and Midos, partially opened are well worth exploring, especially with a view to the manufacture of smokeless fuel, for which a very considerable demand exists in the neighbourhood, and for which the coal is peculiarly adapted, whilst the mines of Lomba recently sunk bid fair to rival any in extent of output. This coal district was very favourably reported upon some years ago by Mr. John Brown, late President of the North Stafford Mining Institute, a gentleman well known in connection with coal and iron mining, and his opinions have been thoroughly borne out by recent investigations. The iron of the district, although in large quantities, and very easily worked, contains generally too much phosphorus to be marketable. The large companies formed for antimony mining comprise the Fontainha, Sobrido, Ribeira, Tapada, and Montalto, of which the two latter, being more advanced, are making large returns and are adding to their profits by treating their quartz for gold, at present on a small scale, but capable of great development. One of the richest mines is the Corgo, worked by a private firm; it has a great future before it. The quantity of gold mixed with the antimony is very considerable, picked samples having assayed as much as 36 ozs. to the ton. The great advantage of all these mines is their shallow depth, the old folks from the nature of the ground being unable to get in any deep drainage levels.

The great fissure veins appear to have been only worked for gold and silver; nothing beyond some pyrites has been found associated with the quartz. They extend from Vallongo towards Melres, on the banks of the Douro, and as the river is approached veins of rich argentiferous galena present themselves. None of these old workings appear of any great depth. The deepest shafts I have yet met with are found to the south-east of Vallongo, and in the Serra do Facho and Serra do Montezello, the two extreme points of the mineral zone; these are only some 90 fathoms from surface to adit level, so that the whole district may be virtually classed as virgin ground. No difficulty whatever exists in opening these old adits, they being mainly choked with ferruginous deposits easily removed; one of the most important has been recently completely cleaned from mouth up to old workings, a distance of 250 fms., by a society called The Foreign Mining Association, in the Serra do Facho above referred to, with a view to putting down the necessary machinery for sinking a new mine under the old workings; this adit is perfectly sound, and is ventilated by a series of shafts, which have also been emptied, and which require no timber; the whole work must have cost the old people immense time and labour—pretty sound evidence of the value of the auriferous and argentiferous quartz they sought after. The quartz runs in continuous veins, opening out into large pockets of rich orestuff, easily mined, and containing an excellent paying quantity of both gold and silver; in fact, so simple and inexpensive is the whole operation of getting into and under these old workings, that it is a marvel so little has been done in that direction. I have broken quartz myself yielding 2 ozs. gold and 20 ozs. silver to the ton. Professor Smith, late of the School of Mines, reported very favourably upon samples submitted to him for assay, whilst Mr. Penrose, of Swansea, stated he could concentrate some ordinary quartz by simple washing up to a very valuable product. Quartz from the Tapada fetches from 37. 7s. 6d. to 42. per ton in Swansea and Hamburg, whilst the ore from Corgo is said by Messrs. Claudet to be infinitely more valuable; I am not speaking of picked samples, but in bulk. The argentiferous mines are those of Gondarem, working under an Portuguese company and the Estivada belonging to an English company having its offices in Swansea, the average quantity of silver in the ores of the former is 70 ozs. to 1 ton of ore, whilst the latter yields 130 ozs. without any excessive dressing; the galena is very light, in fact Estivada is purely a silver ore, its commercial value is about 30% per ton. The mine only requires active development to rank as the first in the peninsula. The mineral from another mine called Rio Mao gives roughly 150 ozs. silver to 1 ton, but at present nothing is being done there, and I have had samples from Penafiel yielding 300 ozs. silver; all these cases prove the valuable nature of the argentiferous ores of the neighbourhood, and show what an important field is utterly neglected or nearly so. I could mention scores of other mines under partial development, but the above are the most advanced in the district. The capital employed represents over half a million, and the shares are almost entirely in the hands of Lisbon and Oporto adventurers, the foreign element being very poorly represented. Like all fresh enterprises a good deal of money has been wasted, too little has been done under ground, too much on surface in shape of show, the cart before the horse. Still, generally speaking, the works have been fairly carried out, and the machinery, if expensive, still very suitable for its work; the management charged in general far in excess of requirements, but to this remark I make exception in the case of Gondarem, Corgo, Estivada, and Montalto, where great economy has been observed. A large field for mining enterprise exists here, more especially for gold, adventurers can easily judge for themselves, and although the greater part of the district is now manifested yet ample facilities exist for working on very easy royalties. The Government gives every facility and encouragement to mining, and the laws connected with the same are interpreted in the most liberal manner. As in every country recently opened up to exploration many worthless properties have been placed upon the market, and many mistakes made, especially in the southern provinces, yet in the north, where the old people principally worked, so far all properties now in exploration bid fair to prove successful—in fact, if they do not it arises from the fault of those connected with them, and not from any failure in the mineral deposits.—*Oporto, September 12.*

DOURO.

THE CLIFTON HALL COLLIERY ACCIDENT.

OUR DEAD.

Wind them up gently, all our precious dead—
Our own sweet dead, God's hand has laid so low.
From out their eyes the joyous light hath fled.
Their lips are dumb, and yet we love them so.

Poor stricken watchers, waiting here to-day,
Above whose haggard eyes the sunbeams shine,
Waiting to search those heaps of blackened clay.

Waiting—great God!—to whisper, "This is mine."

Wind them up gently, aged ones and young,
The boy whose life was beautiful and fair,

The man whose step was fleet, whose arm was strong,

Or he whose brow was furrowed o'er with care.

Each life went forth as death called on its name—

The aged and weary, the young and the gay.

What does it matter now? they're all the same—

Nothing but blackened heaps of mangled clay.

A few short hours ago, hearty and strong,

The warm blood coursing through each throbbing vein,

Upon their lips, perchance, some merry song,

Their glad hearts beating to its gay refrain

They went below. Perhaps they turned to look

At the bright sun, that smiled into their eyes,

And thus, unconsciously, those bright eyes took

Their final gaze upon the morning skies.

Ere the cage dropped into that awful place,

Perhaps God's sunlight in its beauty fell,

And, straying softly o'er each happy face,

Kissed every cheek, as with a mute farewell.

Little they thought, that never, never more,

That sun would cheer them with its radiance warm;

Little they thought that ere that day was o'er

Its ray would blight each crushed, each poor dead form.

Wind them up gently. "Who is this that's here?"

"Her boy," you say. Poor mother, how she stands!

Her eyes grown glassy in their awful fear,

Clasping in agony her wrinkled hands.

"Tis not my boy," she moans. Oh woman sad,

Perish that hope which rises sweet and strong;

It is the child that made your life so glad—

Your "bonny boy," so beautiful, so young.

That is the head, all crushed and mangled now,

That lay in slumber on your faithful breast:

That is the brow, the fair unrinkled brow,

Your loving lips in infancy oft prest;

Those are the feet you taught to tread life's way.

The little feet you fondled o'er and o'er.

Poor senseless things, how still they lie to-day,

Never to tread God's earth—oh! never more.

Take him, poor mother, to your heart again,
Your aching heart, of joy, of hope, bereft;
Press to that temple filled with grief and pain
The senseless clay, all of your boy that's left.

Lay your poor lips, grown pallid in their woe,

Just once again upon his clammy brow;

Oh, God, whose hand hath struck this woman low,

In Thy great mercy raise her, help her, now!

Another! older, stronger! Who is he?

"A husband and a father," did you say?

Perhaps, perhaps, upon that broken knee

A little child was prattling yesterday.

Two soft round arms were raised in love,

To clasp the tool-stained neck so rough and bare,

And dimpled baby fingers stretched to rove,

Midst the thick tangle of his dusky hair.

How they would rush away in childish glee

To meet "their dada" in the little street.

Clasping his hands, and clinging to his knee,

Hanging, like flowers, around his weary feet,

'Twas "dada" bought them pretty frocks to wear.

"Dada" toiled and toiled to get them bread;

"Dada" who kissed their lips and stroked their hair,

"Dada" now lying on the stretcher—dead!

Three brothers these, three brothers gay and young,

Whose feet together trod the path of life,

Whose voices mingled oft in happy song,

Together joined in pleasure or in strife.

Three brothers, laughing through life's joyous spring,

Or walking through it's stormy weather;

And in that hour when Death stood forth as king

He did not sever them—they died together!

Out of the shattered bodies burst away

The great immortal souls, for ever free,

Leaving those slender chains of broken clay,

And passing where "no mortal eye can see."

Together lay those bodies in the tomb,

Till the great trumpet sounding o'er the land,

Piercing the shadows of that fearful gloom,

Bids them arise three brothers, hand in hand.

* * * * *

Wind them up gently, all our precious dead,
To lay in sorrow 'neath their kindred sod,
And though from out our souls the light has fled,
We bow them humbly to the will of God,
Praying that when these days of earth are o'er,
After the anguish and the bitter pain,
In His fair land where sorrow is no more,
Our weary souls may meet their loved again.

Pendleton.

MARY MAGDALENE FORRESTER.

Perhaps one of the most pathetic sights in connection with this colliery disaster was the corpse of an unidentified collier, which lay alone in a shed near the pit mouth after the other bodies recovered had been removed.

Only a poor dead collier,
Laid in the shed all alone,
Not even a friend to bewail him,
But spoken of as "unknown."

Poor fellow! the last of the slain ones,
Who lay there side by side,
After the terrible battle

In which they struggled and died.

How quiet he lies—for this evening
His hard-worked limbs are at rest:
His clogs lying there on the stretcher—
His hands folded over his breast.

His face all disfigured and blackened
By the fire deep down below,
So that now, when he lies at the surface,
His features not one can know.

Only a Lancashire collier
(Perhaps rough in his words and deeds),
Toiling away in the coal pit
To earn his daily needs.

And yet, mayhap, with a true heart,
That kindness and love have won;
But now he has ceased from his labours,
And his earthly tasks are done.

Unknown! not a comrade to tell us
How he fought with the last grim foe,
But we trust that an all loving Saviour
Has redeemed him from endless woe.

And we hope that the poor charred body,
So burnt and so black to-night,
May be found at the last, thro' God's mercy,
All clothed in a robe of white.

Unknown? then carry him gently,
And lay him beneath the sod;
Leave him there till the great Resurrection;
He is known to a merciful God.

R. PARSONS.

Mr. William Pickard, the miners' representative for South Lancashire, was requested by the Salford Humane Society to select six of the explorers distinguished for bravery after the Clifton Hall Colliery explosion as worthy recipients of the gold medal of the Society. The following are the six men selected:—Aaron Manby, pit carpenter; Peter Horsefield, pit carpenter; George Hindley, blacksmith; Thomas Worrall, underlooker; Charles Parkinson, fireman; and George Higson, fireman.

Messrs. HENRY BATH and SONS, Swansea,

Registration of New Companies.

The following joint-stock companies have been duly registered:—

THE IGUANA GOLD SYNDICATE (Limited).—Capital 2750*l.*, divided into 55 shares of 50*l.* each. Object, to carry into effect an agreement to be made between Jean Ferrel Guigues of the first part, Paul Quartier of the second part, Thomas Sanden Godman Kirkpatrick and David Forbes, as trustees for the company, of the third part, and several persons whose names are set forth in the schedule thereto of the fourth part. To advance moneys to J. F. Guigues and P. Quartier, and as security therefore to acquire by way of mortgage or to become the registered proprietors of six concessions of certain lands in the Commune of Mana, in the French Guyana, known as the Iguana Concessions, granted by the Government of the Republic of France to J. F. Guigues and P. Quartier, and also certain lands and sugar plantations, &c., in the Island of Gaudaloupe, the property of the said J. F. Guigues; and for the purpose of realising such securities, to take possession of, explore, work, mine, use, and cultivate the same or any part, or to sell the same, or the produce, to any person or persons, company or body, for any such consideration as the company shall think fit, &c. Registered by Capel, Cure, and Ball, 2, Whittington Avenue, Leadenhall-street, E.C. The first subscribers (who take one share each) are—J. Dobson Gord, chartered accountant, 1, Guildhall-chambers, E.C.; T. S. G. Kirkpatrick, 38, Charlwood-street, Belgrave-road, S.W.; D. Green, quarryowner, 1, Finsbury Circus, E.C.; David Forbes, engineer, 18, Endymion-road, Finsbury-park; C. V. Viard, 8, Brompton-crescent, South Kensington; R. A. Barlow, major, retired, 5, Williams-place, Enfield; R. Melbourne Jackson, merchant, 2, Fen-court, E.C. The number of directors to be not less than five nor more than seven. Qualifications of a director one share, of the nominal value of 50*l.*

THE FRYER HILL SILVER MINING COMPANY (Limited).—Capital 75,000*l.*, divided into 75,000 shares of 1*l.* each. Interest at the rate of 5*l.* per cent. per annum may be paid to any shareholders on amounts paid in advance on calls. Object, purchase, or otherwise acquire, lands, estates, mines, mineral grants, mining rights and privileges, ores, minerals, and other properties in Colorado or elsewhere; to carry into effect an agreement, dated July 11, 1885, and made between the Olathe Silver Mining Company (Limited) and W. L. Grimwade (the liquidator thereof), of the one part, and W. Aldridge, on behalf of the Fryer Hill Silver Mining Company (Limited), of the other part; and a deed be dated July 11, 1885, and made between the same parties of the first part, and Harold Carter of the third part; to carry on the general business of miners, &c. Registered by Bellamy and Co., 62, Moorgate-street, E.C. The first subscribers (who take one share each) are—Alfred James Blizard, shorthand writer, 47, Vincent-road, Wood Green; John Wright, merchant, 72, Bishopsgate-street, E.C.; Henry James, law clerk, 35, Smith-terrace, Chelsea, S.W.; Stephen Hadley, sock manufacturer, 213, Grange-road, Bermondsey; Thomas Joseph Bishop, 184, Kensington-road; William David Childs, accountant, 2, Chestnut-villas, Holmesthorpe-road, South Norwood; Thomas James Clare, estate agent, 1, King's Arms-yard, E.C.

THE ULPHA COPPER MINING COMPANY (Limited).—Object, working, and sale of the copper and other minerals to be found in the mines known as the Long Garth Copper Mines, situate in the parish of Ulpha, Cumberland, and carry on the business of miners, &c. Registered by Hooper and Son, 69, Ludgate-hill, E.C. Capital 12,000*l.*, divided into 12,000 shares of 1*l.* each. The first subscribers (who take one share each) are—Solomon Birkett, mining engineer, Millom, Cumberland; Thomas Cook, mining agent, Dutton-in-Furness; Martin Luther Boundy, miner, Holborn-hill, Millom; Richard Dinnis, miner, Millom; Robert McGowan, auctioneer, Millom; Walter Voisey, miner, 7, Queen-street, Millom; William Shoofue, miner, Holborn-hill, Millom. Registered without Articles of Association.

THE TALK-O'-TH-HILL COLLIERY (Limited).—Capital 50,000*l.*, divided into 5000 shares of 10*l.* each. Object, carry on the business of colliery-owners and ironmasters, brick and tile manufacturers, and of manufacturing all products of coal, iron, clay, and other minerals, and the acquiring of mines, lands, plant, &c. Filed by Clark, Woodcock, and Itlyland, 11, Lincoln's Inn-fields. The first subscribers (who take one share each) are—A. F. Wallon, merchant, 8, Austin Friars, E.C.; F. H. Birley, barrister-at-law, Dorman's Land, East Grinstead; Thomas H. Birley, commission agent, 66, Peter-street, Manchester; Alfred E. Harter, calico printer, 16, Charlotte-street, Manchester; John Dunn, 53, Brown-street, Manchester; G. H. Gaddum, 7, South-street, Manchester; J. Hardman, Netley Abbey, Leek; Solomon Murray, Levenshulme; Peter Dunn, 53, Brown-street, Manchester. The number of directors to be not less than three nor more than five. The following to be the directors until the first ordinary general meeting after the incorporation of the company: J. Dunn, J. Hardman, T. H. Birley, and S. Murray. Remuneration to be determined by the company in general meeting.

THE LEADHILLS SILVER-LEAD MINING AND SMELTING COMPANY (LIMITED). Notice is hereby given, that the Directors have this day DECLARED a DIVIDEND of THREE SHILLINGS AND SIXPENCE per share, free of income tax, PAYABLE on and after SATURDAY, the 26th instant, to the shareholders now on the books of the company. By Order, FELIX F. WILSON, Secretary, Finsbury Circus, London, E.C., 17th September, 1885.

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THE SECRETARY OF STATE FOR WAR is prepared to RECEIVE TENDERS for the SUPPLY OF STEAM COAL at the Royal Arsenal, Woolwich, during the six months from 1st October, 1885, to the 31st March, 1886.

All necessary information may be obtained on application to the several Superintendents of the Manufacturing Departments, or to the Commissioner-General of Ordnance, Woolwich.

Forms of Tender may be obtained at this office, where the tenders will have to be delivered by Twelve o'clock noon on Friday, the 25th day of September, 1885, addressed to the Director of Army Contracts, and marked on the outside, "Tender for Steam Coal at Woolwich."

EVAN COLVILLE NEPEAN,

Director of Army Contracts,

War Office, Pall Mall, S.W., 12th September, 1885.

THE ROYAL CORNWALL POLYTECHNIC SOCIETY.

THE FIFTY-THIRD ANNUAL EXHIBITION will OPEN at the Polytechnic Hall, Falmouth, on TUESDAY, September 22nd, and four following days.

The Exhibition will open on the first day to members at Eleven o'clock; to the public at Noon.

The President, the Right Honourable EARL OF MOUNT EDGCUMBE, will deliver the opening address at One o'clock p.m.

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A course of Mine Surveying, conducted by Mr. B. H. Brough, will begin on the 15th Feb., 1886.

In addition to the above, Lectures will be given in the Chemical Department by Drs. Hodgkinson and Percy Frankland. For further particulars apply to the Registrar, Normal School of Science, South Kensington.

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The SESSION COMMENCES on MONDAY, October 5th.

Programmes may be obtained on application at the College; or by letter addressed to the Secretary, Royal College of Science, Stephen's Green, Dublin.

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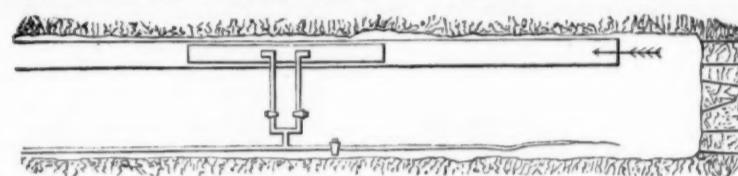
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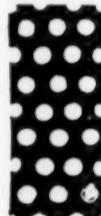
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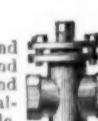
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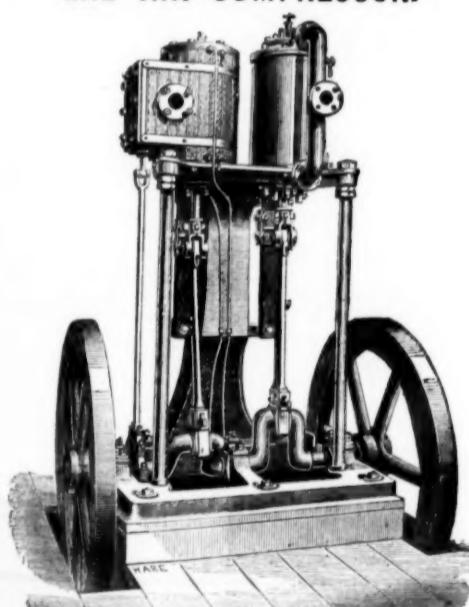
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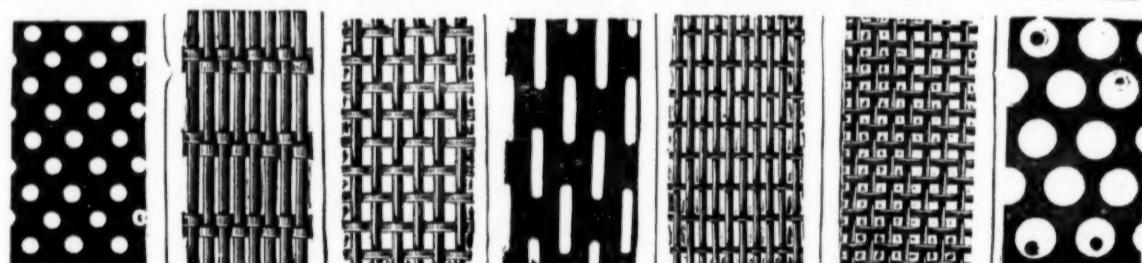
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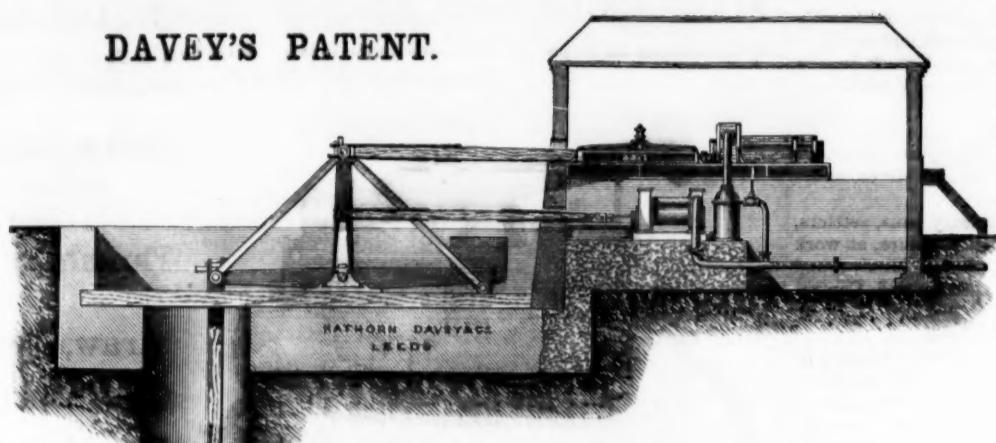
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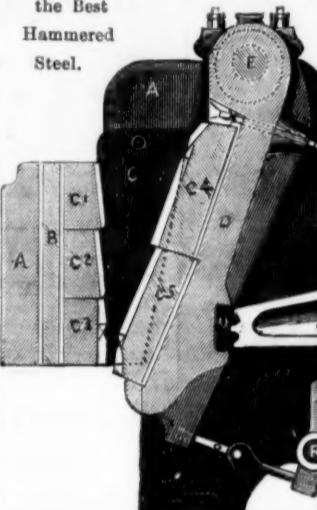
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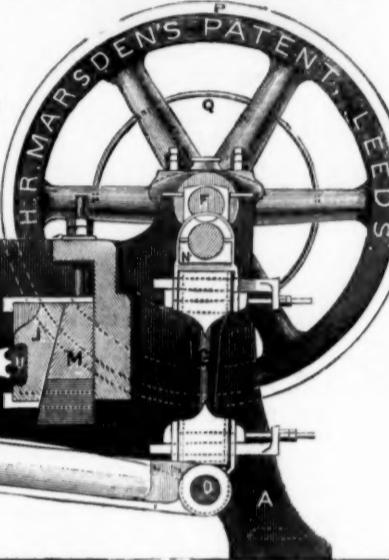


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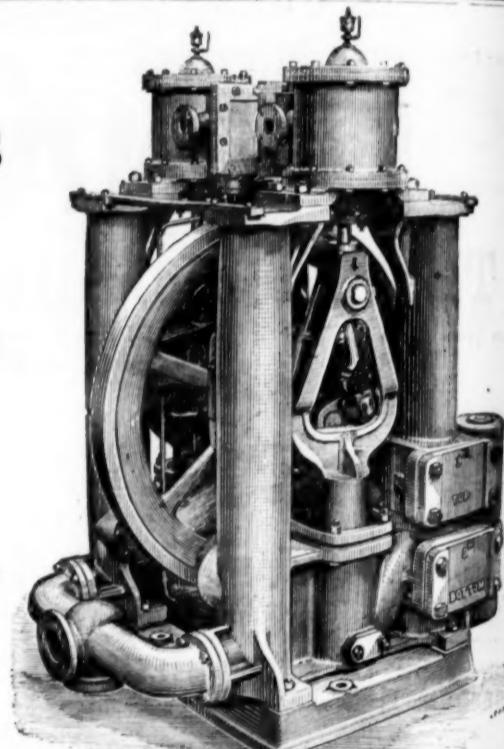
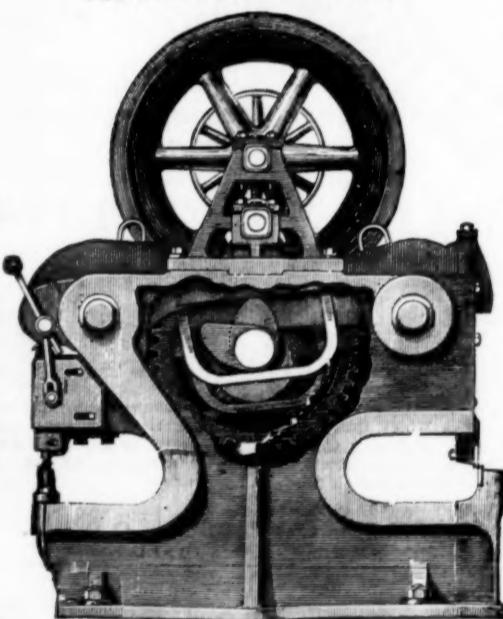
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